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**SITE ASSESSMENT REPORT
SWIFT CHEMICAL AND AGRICULTURAL SITE
FAIRMONT CITY, ST. CLAIR COUNTY, ILLINOIS**

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 5 Emergency Response Branch
c/o Crab Orchard National Wildlife Refuge
8588 Rt. 148
Marion, IL 62959

TDD No.:	S05-0104-021
Date Prepared:	19 Jun 01
Contract No.:	68-W-00-129
Prepared by:	Tetra Tech EM Inc.
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Tetra Tech EM Inc.

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19 Jun 01

Mr. Kevin Turner
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
c/o Crab Orchard National Wildlife Refuge
8588 Rt. 148
Marion, IL 62959

Subject: Site Assessment Report
Swift Chemical and Agricultural site
Fairmont City, St. Clair County, Illinois
Technical Direction Document No. S05-0104-021
Tetra Tech Contract No. 68-W-00-129

Dear Mr. Turner

The Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START) is submitting the enclosed site assessment report for the Swift Chemical and Agricultural site in Fairmont City, Illinois. If you have any questions or comments about the report or need additional copies, please contact me at (314) 892-6322 or Thomas Kouris at (312) 946-6431.

Sincerely,

A handwritten signature in black ink, appearing to read "JM Parish".

Joseph M. Parish, CHMM
Project Manager

Enclosure

cc: Lorraine Kosik, START Project Officer
Thomas Kouris, START Program Manager

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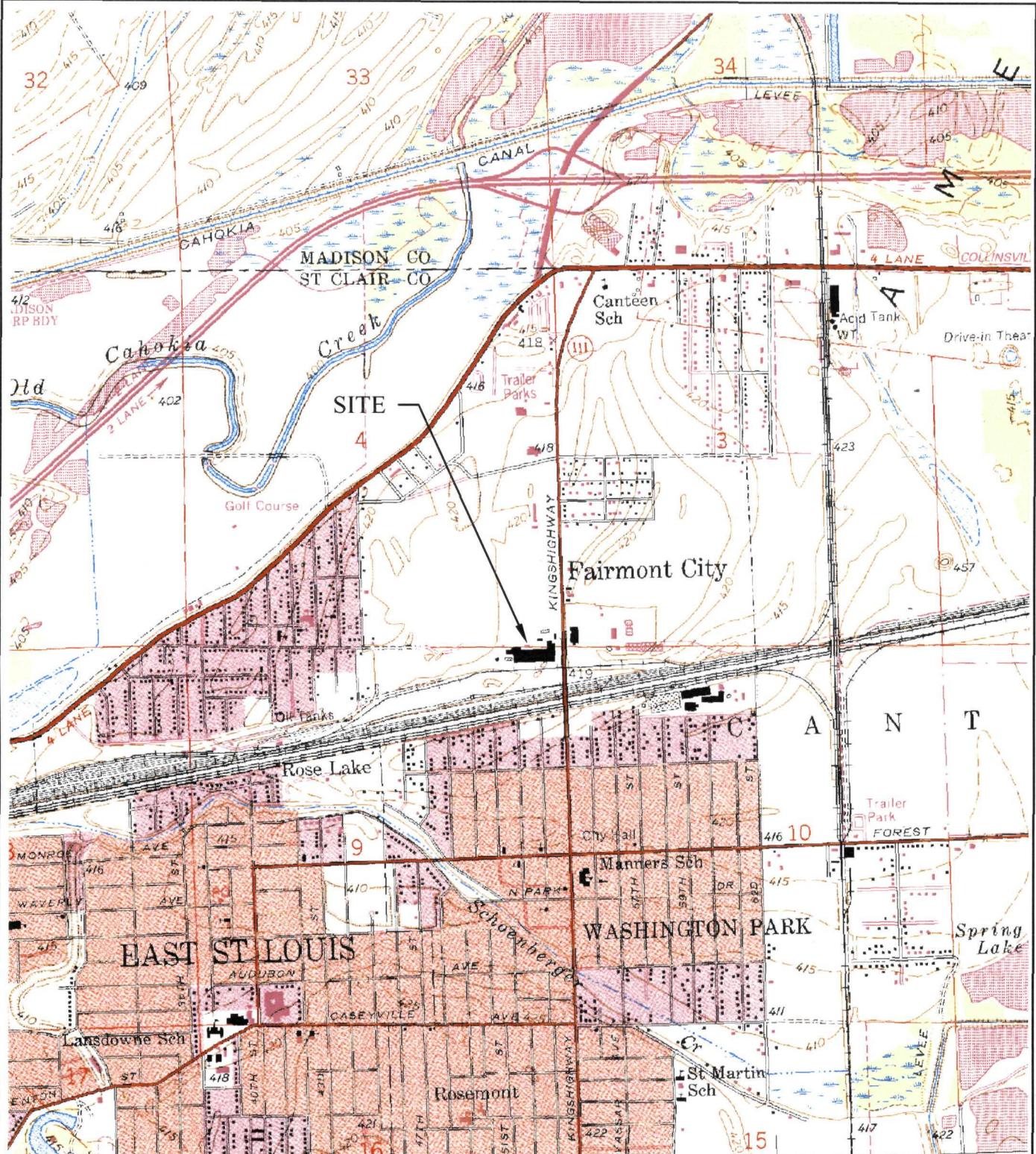
1.0 INTRODUCTION

The Tetra Tech EM Inc. (Tt EMI) Superfund Technical Assessment and Response Team (START) has prepared this site assessment report in accordance with the requirements of Technical Direction Document (TDD) No. S05-0104-019, which the U.S. Environmental Protection Agency (EPA) assigned to START. The scope of this TDD was to conduct site assessment activities at the Swift Chemical and Agricultural (Swift) site in East St. Louis, Illinois. START was tasked to conduct a site assessment, which involved soil sample collection to delineate the extent of contamination, documentation of on-site activities, including photodocumentation (see Appendix A), analytical data validation (see Appendix B), and preparation of a site assessment report. This site assessment report discusses the site background, site assessment activities, analytical results, and potential site-related threats, and presents a summary.

2.0 SITE BACKGROUND

The Swift site is located in a light industrial area on Kingshighway north of East St. Louis in St. Clair County, Illinois (see Figure 1). The site is bordered by other industries to the north and east, Rose Creek and railroad tracks to the south, and an open field to the west (see Figure 2). The site formerly consisted of 7 buildings and 15 chemical and oil storage tanks. The largest of these buildings has been demolished, and only the foundation remains. Most of the storage tanks have also been removed. The site is still active, but current site operation are unknown. In the past, the site manufactured pesticides for agricultural use. The present owner is Vigindustries, Inc. A school and residences are located within 1 mile of the site.

The site has been investigated during a screening site inspection performed by the Ecology and Environment, Inc., Field Investigation Team under the authority of U.S. EPA Region 5 in cooperation with the Illinois Environmental Protection Agency (IEPA). During this investigation, 11 soil or sediment samples and 1 surface water sample were collected and analyzed for Target Compound List compounds at the locations designated S1 through S12 in Figure 2.



SWIFT CHEMICAL AND
AGRICULTURAL SITE
FAIRMONT CITY, ILLINOIS
TDD NO: S05-0104-021

0 1000 2000
SCALE IN FEET



FIGURE 1
SITE LOCATION MAP

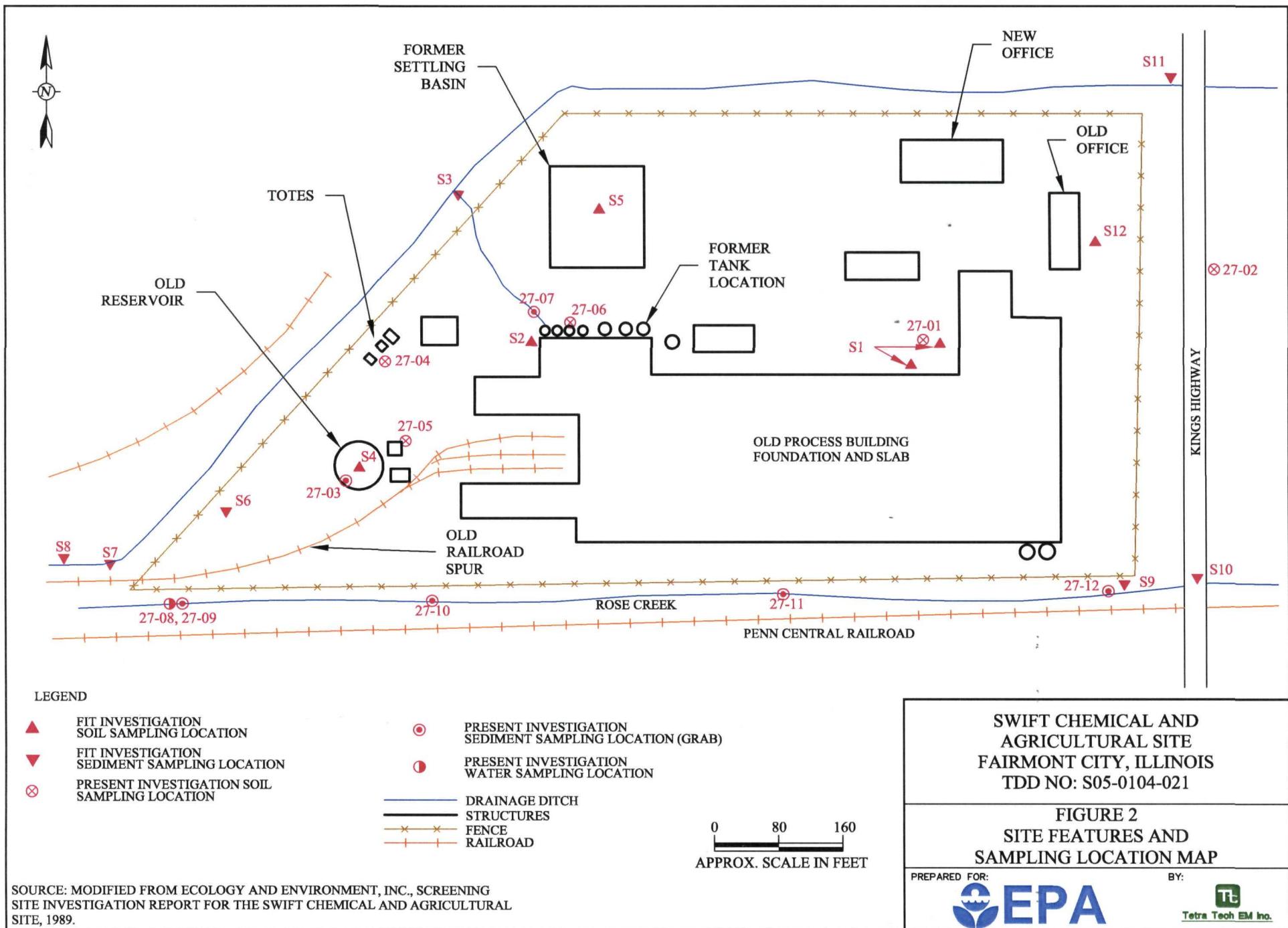
SOURCE: MODIFIED FROM USGS, MONKS
MOUND, ILLINOIS QUADRANGLE, 1954, PHOTOREVISED, 1993.

PREPARED FOR:



BY:





SWIFT CHEMICAL AND
AGRICULTURAL SITE
FAIRMONT CITY, ILLINOIS
TDD NO: S05-0104-021

FIGURE 2
SITE FEATURES AND
SAMPLING LOCATION MAP

PREPARED FOR:



BY:



3.0 SITE ASSESSMENT ACTIVITIES

Site assessment activities were conducted at the Swift site on 25 Apr 01. START team members included Joe Parish, Jason Massey, and Brian Schlieger from Tetra Tech. U.S. EPA on-scene coordinators (OSC) included Mike Harris and Tom Cook. Also present on site were James Van Nortwick, representative of the site's potentially responsible party (PRP), Vigindustries, Inc., and Aarti Desai, who was contracted by the PRP to procure split samples with Tetra Tech. START was tasked to document site conditions; collect soil, sediment, and water samples; and prepare and submit the samples for analytical services.

For this site, sampling locations were chosen based on the previous investigation performed by FIT in 1989 and on current site conditions, especially site drainage. Samples consisted of sediment in drainage areas near the former on-site process building, the old reservoir, and Rose Creek; soil in storage tank and potential spill areas; and one water sample from Rose Creek. Sampling locations are shown in Figure 2. Sediment samples were collected from 0 to 6 inches below the sediment surface, and soil samples were collected from the ground surface to 6 inches below ground surface (bgs) for all analyses except volatile organic analysis (VOA)—samples for VOA were collected from 18 to 24 inches bgs as requested by the OSC.

Surface soil composite samples were collected using a stainless-steel spoon and homogenized in a disposable pie pan. Composite samples consisted of nine aliquots covering an area of about 400 square feet. Figure 2 shows the approximate center of the aliquot locations for each composite sample. Soil samples from 18 to 24 inches bgs were collected from the auger bucket and placed directly into the sampling containers for minimal disturbance. The auger or spoon was decontaminated after collection of each sample using Alconox and water with a final, deionized water rinse. All sediment samples were homogenized in a disposable pie pan. Sediment grab samples from the old reservoir and drainage ditch were collected using a stainless-steel auger. Sediment grab samples from Rose Creek were collected using a stainless-steel spoon. The water sample was collected from the top of the water column directly into the sample container.

The main contaminants of concern at the site are pesticides. Other contaminants of concern include Resource Conservation and Recovery Act (RCRA) metals, polychlorinated biphenyls (PCB), semivolatile organic compounds (SVOC), volatile organic compounds (VOC), and pH. Soil samples were analyzed

for all parameters or all parameters except for VOCs. Sediment and water samples were analyzed for pesticides and RCRA metals only.

Samples were stored on ice and submitted to the Environmetrics, Inc., laboratory in St. Louis, Missouri, on 27 Apr 01. Sampling locations and analytical parameters are summarized in Table 1. Sampling locations are shown in Figure 2.

TABLE 1
SAMPLING SUMMARY

Sampling Date	Time	Sample No.	Sample Medium	Description
25 Apr 01	1100	027-01	Soil; former FIT sampling location S1	Pesticides, PCBs, RCRA metals, SVOCs, and pH
25 Apr 01	1115	027-02	Background soil background	Pesticides, PCBs, RCRA metals, SVOCs, and pH
25 Apr 01	1135	027-03	Sediment from old reservoir	Pesticides and RCRA metals
25 Apr 01	1150	027-04	Soil from totes area	Pesticides, PCBs, RCRA metals, SVOCs, VOCs, and pH
25 Apr 01	1210	027-05	Soil from secondary containment	Pesticides, PCBs, RCRA metals, SVOCs, VOCs, and pH
25 Apr 01	1230	027-06	Soil from former tank area	Pesticides, PCBs, RCRA metals, SVOCs, VOCs, and pH
25 Apr 01	1245	027-07	Sediment from ditch	Pesticides and RCRA metals
25 Apr 01	1440	027-08	Water from Rose Creek	Pesticides and RCRA metals
25 Apr 01	1450	027-09	Sediment from Rose Creek	Pesticides and RCRA metals
25 Apr 01	1500	027-10	Sediment from Rose Creek	Pesticides and RCRA metals
25 Apr 01	1510	027-11	Sediment from Rose Creek	Pesticides and RCRA metals
25 Apr 01	1520	027-12	Sediment from Rose Creek	Pesticides and RCRA metals

Notes:

- FIT = Field Investigation Team
- PCB = Polychlorinated biphenyl
- RCRA = Resource Conservation and Recovery Act
- SVOC = Semivolatile organic compound
- VOC = Volatile organic compound

4.0 ANALYTICAL RESULTS

All samples were analyzed for RCRA metals and pesticides, and selected samples were analyzed for VOCs, SVOCs, PCBs, and pH as indicated in Table 1. Samples were selected for VOC, SVOC, PCB, and pH analyses at the discretion of the OSC. Table 2 summarizes the detected analytical data corrected to dry weight. The soil and sediment sample laboratory data were compared to the U.S. EPA Region 9 Preliminary Remediation Goal (PRG) tables for industrial soil. Concentrations that exceed the PRGs are shaded in Table 2.

As indicated in Table 2, the polycyclic aromatic hydrocarbon (PAH) benzo(a)pyrene exceeded its industrial PRG in sample 027-01 at the J-qualified concentration of 0.48 milligram per kilogram (mg/kg). This compound has an industrial soil PRG of 0.29 mg/kg. For sample 027-02, the PAH benzo(a)pyrene also exceeded its industrial soil PRG at the J-qualified concentration of 1.0 mg/kg. In sample 027-04, the pesticide dieldrin was detected at 1.4 mg/kg, which exceeds the dieldrin industrial soil PRG of 0.15 mg/kg. Sample 027-05 contained dieldrin at 1.39 mg/kg, which exceeds the compound's industrial soil PRG as discussed above. Sample 027-06 contained arsenic at 7.57 mg/kg (B-qualified), lead at 796 mg/kg, aldrin at 0.944 mg/kg (J-qualified), and dieldrin at 3.72 mg/kg. These concentrations exceed the compounds' industrial soil PRGs of 2.7, 750, 0.15, and 0.15 mg/kg.

Sediment sample 027-07 contained the following analytes at the concentrations indicated: lead at 1,671 mg/kg, heptachlor at 15.4 mg/kg, aldrin at 2.1 mg/kg (J-qualified), heptachlor epoxide at 1.76 mg/kg (J-qualified), and dieldrin at 5.1 mg/kg. These concentrations exceed the compounds' industrial soil PRGs of 750, 0.55, 0.15, 0.27, and 0.15 mg/kg, respectively. Sediment sample 027-10 contained dieldrin at 0.176 mg/kg. This concentration exceeds the industrial soil PRG listed above. Sample 027-11 contained arsenic at 5.68 mg/kg (B-qualified), which exceeds the compound's industrial soil PRG of 2.7 mg/kg.

TABLE 2
ANALYTICAL RESULTS SUMMARY

Analyte	Sample No. ^{a,b}											
	027-01	027-02	027-03	027-04	027-05	027-06	027-07	027-08 ^c	027-09	027-10	027-11	027-12
Total Arsenic	<3.00	<3.00	<3.00	<3.00	<3.00	7.57 B	<3.00	0.045 B	<3.00	<3.00	5.68 B	<3.00
Total Barium	73.9	112	332	57.9	98.0	74.6	129	0.048	32.9	298	176	66.8
Total Cadmium	9.08	4.82	5.31	11.2	24.3	14.7	11.8	0.087	30.8	19.5	5.84	5.46
Total Chromium	10.8	21.6	185	21.4	17.4	17.1	42.0	0.009 B	5.73 B	41.8	30.3	21.6
Total Lead	190	145	88.9	363	302	796	1671	0.055 B	94.6	478	358	229
Total Mercury	0.200	0.100	0.100	0.400	0.500	3.10	6.80	<0.0002	0.400	3.90	3.30	0.500
Total Seleniuim	<4.70	<4.70	<4.70	<4.70	<4.70	<4.70	<4.70	<4.70	<4.70	<4.70	<4.70	<4.70
Total Silver	1.30 B	1.53 B	<0.600	1.56 B	1.40 B	3.46 B	<0.600	<0.006	0.668 B	1.14 B	1.21 B	3.71 B
pH ^d	7.55SU	8.24SU	NA	7.10SU	7.19SU	7.41SU	NA	NA	NA	NA	NA	NA
Phenanthrene ^d	0.55J	1.4J	NA	<5.63	0.16J	<3.77	NA	NA	NA	NA	NA	NA
Fluoranthene	1.2J	2.8J	NA	0.41J	0.18J	0.43J	NA	NA	NA	NA	NA	NA
Pyrene	0.91J	2.2J	NA	<5.63	<2.31	0.36J	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.42J	0.998J	NA	<5.63	<2.31	<3.77	NA	NA	NA	NA	NA	NA
Chrysene	0.54J	1.3J	NA	<5.63	0.27J	<3.77	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl) phthalate	<4.44	0.89J	NA	<5.63	<2.31	<3.77	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.90J	1.8J	NA	<5.63	0.38J	<3.77	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	<4.44	0.72J	NA	<5.63	<2.31	<3.77	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.48J	1.0J	NA	<5.63	0.19J	<3.77	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	<4.44	0.35J	NA	<5.63	<2.31	<3.77	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	0.061J	0.077J	0.18J	NA	NA	NA	NA	NA	NA
Methylene Chloride	NA	NA	NA	0.022J	0.018J	0.019J	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	0.020J	0.0037J	0.0044J	NA	NA	NA	NA	NA	NA
m- and p-Xylenes	NA	NA	NA	0.0051	<0.005	<0.005	NA	NA	NA	NA	NA	NA
o-Xylenes	NA	NA	NA	0.0023J	<0.005	<0.005	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA	0.002J	<0.005	<0.005	NA	NA	NA	NA	NA	NA
Aroclor 1254	<0.044	<0.041	NA	<0.056	0.148	<0.038	NA	NA	NA	NA	NA	NA
Aroclor 1260	0.0307J	0.0633	NA	0.115	0.0974	0.0364J	NA	NA	NA	NA	NA	NA
alpha-BHC ^d	<0.013	<0.012	<0.019	0.0518J	0.0922J	<0.566	<1.13	<0.03	0.0382J	<0.032	<0.015	<0.017
delta-BHC ^d	0.0173J	0.0153J	<0.058	<0.101	<0.173	<1.69	<3.38	<0.06	<0.088	<0.097	0.0271J	<0.051
Heptaclor	<0.013	<0.012	<0.019	0.0484	<0.058	<0.566	15.4	<0.03	<0.029	<0.032	<0.015	<0.017
gamma-Chlordane	<0.016	<0.015	0.0193J	0.243	<0.071	<0.698	8.48	<0.04	0.036	0.0443	0.0146J	0.0234

TABLE 2 (Continued)
ANALYTICAL RESULTS SUMMARY

Analyte	Sample No. ^{a,b}											
	027-01	027-02	027-03	027-04	027-05	027-06	027-07	027-08 ^c	027-09	027-10	027-11	027-12
alpha-Chlordane	<0.012	0.0132	<0.017	0.0563	<0.052	<0.510	1.91	<0.43	<0.026	<0.029	0.0126J	<0.015
Aldrin	<0.018	0.0108J	<0.026	0.082J	0.129J	0.944J	2.1J	<0.04	<0.039	0.056J	0.0246J	0.0279
Heptachlor epoxide	<0.368	<0.344	<0.534	<0.935	<1.59	<15.7	1.76J	<0.083	<0.814	<0.897	<0.417	<0.473
Dieldrin	0.0222	0.0236	<0.013	1.4	1.39	3.72	5.1	<0.02	<0.020	0.176	0.0668	0.076
4,4'-DDE	<0.018	<0.017	<0.026	<0.045	<0.077	<0.755	<1.50	<0.04	<0.039	<0.043	0.0251	<0.023
Endosulfan sulfate ^d	<0.293	<0.273	<0.425	<0.743	<1.27	<12.5	<24.8	<0.66	<0.647	<0.713	0.0432J	<0.023
4,4'-DDT	<0.053	<0.050	<0.077	<0.135	<0.230	<2.26	<4.50	<0.12	<0.118	<0.130	0.0608	<0.068
Endrin aldehyde ^d	<0.102	<0.095	<0.148	<0.259	<0.442	<4.34	<8.63	<0.23	<0.226	<0.249	0.0477J	<0.131

Notes:

< = Less than reported detection limit
 J = Estimated value less than practical quantitation limit
 B = Estimated value less than practical quantitation limit

NA = Not analyzed
 PRG = Preliminary remediation goal
 SU = Standard unit

a All results are in milligrams per kilogram unless otherwise indicated.

b Shaded values exceed U.S. EPA Region 9 PRGs.

c Results for sample 027-08 are in units of milligrams per liter.

d No PRG established

Small amounts of other metals, SVOCs, VOCs, and pesticides were detected but not at concentrations exceeding their industrial soil PRGs. The soil was slightly to moderately alkaline, having a pH of 7.1 to 8.24 standard units (SU).

In general, the analytical results show elevated concentrations of arsenic, lead, and pesticides near process areas such as former tank storage areas and in drainage areas both on site (sediment sample 027-07) and along Rose Creek (sediment samples 027-10 and 027-11). These results suggest that contamination is site-related and migrating off site. In addition, benzo(a)pyrene was detected above the industrial soil PRG in the background soil sample (027-02) and in on-site soil sample 027-01. No specific conclusions can be made based on this finding because PAHs are ubiquitous in most industrial areas.

5.0 POTENTIAL SITE-RELATED THREATS

Paragraph (b)(2) of Title 40 of the *Code of Federal Regulations* (40 CFR), Section 300.415, lists factors to be considered when determining the appropriateness of a potential removal action at a site. The discussion below summarizes the factors applicable to the Swift site.

- **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants, or contaminants.** Businesses are located immediately adjacent to the site. In addition, a school and residences are located within 1 mile of the site. The site is located within a densely populated major metropolitan area.

During the investigation, START observed that access to the site is restricted. The site is surrounded by a fence, but the on-site facility is currently active, indicating potential threat of exposure of on-site workers and visitors.

Sampling within the site boundaries and at an adjacent properties shows levels of contamination exceeding the U.S. EPA industrial soil PRGs for arsenic, lead, and pesticides as discussed in Section 4.0. Exposure pathways consist of (1) direct contact with contaminated soil and (2) inhalation of airborne contaminants through windblown particulates. Contaminant levels and locations also suggest potential contaminant migration through the runoff and air pathways. Because groundwater was not sampled, no conclusion can be drawn about the groundwater pathway from this investigation.

- **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate.** Southern Illinois receives approximately 35 inches per year of precipitation, mostly in the Spring and Autumn. In addition, thunderstorms common during the Summer greatly accelerate erosion and runoff. These conditions contribute to the potential for exposure and for contaminants to migrate off site.

6.0 SUMMARY

The Swift site is located in a light industrial area with nearby businesses, residences, and schools. The soil was slightly to moderately alkaline, having a pH of 7.1 to 8.24 SU. These results are all consistent with activities associated with past practices at this site and typical industrial areas. In general, the analytical results show elevated concentrations of arsenic, lead, and pesticides near process areas such as former tank storage areas and in drainage areas both on site (sediment sample 027-07) and along Rose Creek (sediment samples 027-10 and 027-11). These results suggest that contamination is site-related and migrating off site. In addition, benzo(a)pyrene was detected above the industrial soil PRG in the background soil sample (027-02) and in on-site soil sample 027-01. No specific conclusions can be made based on this finding because PAHs are ubiquitous in most industrial areas.

APPENDIX A
PHOTOGRAPHIC LOG
(Seven Pages)



Photograph No.: 1

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-01 near old process building

Orientation: South

Date: 25 APR 01



Photograph No.: 2

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-02 along Kingshighway eastside

Orientation: East

Date: 25 APR 01



Photograph No.: 3

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-02 location

Orientation: East

Date: 25 APR 01



Photograph No.: 4

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-03 at old reservoir

Orientation: West

Date: 25 APR 01



Photograph No.: 5

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-04 next to totes

Orientation: North

Date: 25 APR 01



Photograph No.: 6

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-05 next to secondary containment

Orientation: South

Date: 25 APR 01



Photograph No.: 7

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-07 location at drainage ditch sediment across from tank storage

Orientation: North

Date: 25 APR 01



Photograph No.: 8

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-06 at former tank storage area

Orientation: North

Date: 25 APR 01



Photograph No.: 9

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-08 at Rose Creek on west end of site at mouth of culvert

Orientation: East

Date: 25 APR 01



Photograph No.: 10

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-09 at Rose Creek

Orientation: North

Date: 25 APR 01



Photograph No.: 11

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-10 at Rose Creek

Orientation: South

Date: 25 APR 01



Photograph No.: 12

TDD Number: S05-0104-021

Location: Swift Chemical and Agricultural

Subject: Sampling location 027-11 location at Rose Creek

Orientation: North

Date: 25 APR 01



Photograph No.: 13
TDD Number: S05-0104-021
Location: Swift Chemical and Agricultural
Subject: Sampling location 027-12 at Rose Creek

Orientation: North
Date: 25 APR 01

APPENDIX B
VALIDATED ANALYTICAL DATA
(60 Sheets)



Tetra Tech EM Inc.

200 E. Randolph Drive, Suite 4700 ◆ Chicago, IL 60601 ◆ (312) 856-8700 ◆ FAX (312) 938-0118

MEMORANDUM

Date: 19 Jun 01

To: Joe Parish, Project Manager, Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) for Region 5

From: Lisa Graczyk, Chemist, Tetra Tech START for Region 5

Subject: Data Validation for
Swift Chemical and Agricultural Site
East St. Louis, Illinois
Analytical Technical Direction Document (TDD) No. S05-0104-027
Project TDD No. S05-0104-021

Laboratory: Environmetrics, Inc. (Environmetrics), St. Louis, Missouri
Work Order No. 9912/5571
Volatile Organic Compound (VOC) Analysis of 3 Soil Samples, Semivolatile Organic Compound (SVOC) Analysis of 5 Soil Samples, Polychlorinated Biphenyl (PCB) Analysis of 5 Soil Samples, Total Metals Analysis of 12 Soil Samples, and Pesticide Analysis of 12 Soil Samples

1.0 INTRODUCTION

The Tetra Tech START for Region 5 validated VOC analytical data for 3 soil samples; SVOC and PCB analytical data for 5 soil samples; and total metals and pesticides analytical data for 12 soil samples collected on 25 Apr 01 during a site assessment of the Swift Chemical and Agricultural site in East St. Louis, Illinois. The samples were analyzed under the above-referenced work order by Environmetrics using U.S. Environmental Protection Agency (U.S. EPA) SW-846 Method 8260 for VOC analysis, SW-846 Method 8270 for SVOC analysis, SW-846 Method 8082 for PCB analysis, SW-846 Methods 6010 and 7471 for total metals analysis, and SW-846 Method 8081 for pesticides analysis.

The data were validated in general accordance with U.S. EPA's "Contract Laboratory Program National

Data Validation for
Swift Chemical and Agricultural Site
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Page 2

Functional Guidelines for Organic Data Review" dated Oct 99 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated Feb 94. Organic data validation consisted of a review of the following quality control (QC) parameters: holding times, instrument performance check, initial and continuing calibrations, blank results, surrogate results, matrix spike and matrix spike duplicate (MS/MSD) sample results, laboratory control sample (LCS) results, internal standard results, and target compound identification. Inorganic data validation consisted of a review of the following QC parameters: holding times, initial and continuing calibrations, blank results, LCS results, and matrix spike and MS/MSD results.

Section 2.0 discusses the results of the organic data validation, Section 3.0 discusses the results of the inorganic data validation, and Section 4.0 presents an overall assessment of the data. The attachment to this memorandum contains Environmetrics's summary of analytical results, including START's handwritten data qualifications where warranted.

2.0 ORGANIC DATA VALIDATION RESULTS

The results of START's data validation are summarized below in terms of the QC parameters reviewed. The data qualifier below was applied to the sample analytical results as appropriate (see the attachment).

- J - The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.

2.1 HOLDING TIMES

All samples were analyzed within the established or recommended holding time limits of 14 days for VOC analysis, and 14 days to extraction and 40 days to analysis from extraction for SVOC, pesticides, and PCB analyses.

Data Validation for
Swift Chemical and Agricultural Site
Analytical TDD No. S05-0104-027
Project TDD No. S05-0104-021
Page 3

2.2 INSTRUMENT PERFORMANCE CHECK

The bromofluorobenzene instrument performance check met the QC abundance criteria for the VOC analyses. The decafluorotriphenylphosphine instrument check met the QC abundance criteria for the SVOC analyses.

For the PCB and pesticides analyses, the chromatographic resolution was adequate. The percent breakdown of endrin and 4,4'-DDT in the performance evaluation standard was less than 20 percent in both gas chromatograph (GC) columns.

2.3 INITIAL AND CONTINUING CALIBRATIONS

For the VOC and SVOC analyses, the relative standard deviation (RSD) from the initial calibration was within the QC limit of less than or equal to 30 percent for detected target compounds. The continuing calibration results for the VOC and SVOC analyses were within the QC limit of less than or equal to 25 percent difference (%D) between the initial calibration relative response factor and the continuing calibration relative response factor for detected target compounds.

For the PCB and pesticides analyses, the RSD for the initial calibration was within the QC limit of less than or equal to 20 percent for detected target compounds except for alpha-BHC, delta-BHC, and aldrin in column RTX-35. Detected results for alpha-BHC, delta-BHC, and aldrin were flagged "J." For the continuing calibration of the PCB and pesticide analyses, the %D was less than or equal to 25 percent in individual standard mixtures A and B.

2.4 BLANK RESULTS

For the VOC, SVOC, PCB, and pesticides analyses, method blanks were run with the analytical batch and in the proper sequence. No target analytes were detected in the blanks at concentrations exceeding

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Swift Chemical and Agricultural Site
Analytical TDD No. S05-0104-027
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the instrument detection limit except for naphthalene in the VOC analyses. Because naphthalene was not detected in any of the samples, no qualification is warranted.

2.5 SURROGATE RESULTS

Recoveries for the surrogates were within the QC limits specified by the laboratory for the VOC analysis. The recoveries for the surrogates for the SVOC analyses were within the QC limits established by the laboratory except for samples that had to be diluted. Because of the dilution, the surrogates were also diluted and no qualification is necessary. For the PCB analyses, the recoveries for the surrogates were within the QC limits specified by the laboratory except for decachlorobiphenyl in the samples labeled as "Background" and "Totes Area." Inspection of the chromatograms show interference from nontarget compounds; therefore, so no qualifications are warranted. For the pesticides analyses the surrogates were diluted in all samples and could not be evaluated.

2.6 MS/MSD RESULTS

An MS and MSD were analyzed for both the VOC and SVOC analytical runs. The percent recoveries for the MS and MSD were within the QC limit of 70 to 130 percent. The relative percent difference (RPD) between the MS and MSD results were within the QC limit of less than or equal to 20 percent.

An MS and MSD sample were also analyzed for the pesticides analyses but were diluted and therefore could not be evaluated. No PCB MS or MSD samples were analyzed.

2.7 LCS RESULTS

An LCS was analyzed with the samples, and results were within the QC limits of 70 to 130 percent recovery as specified by the laboratory for the VOC, SVOC, PCB, and pesticides analyses except for gamma-BHC in the pesticides LCS, which had a recovery of 68.5 percent. Because gamma-BHC was

Data Validation for
Swift Chemical and Agricultural Site
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Project TDD No. S05-0104-021
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not detected in any sample, no qualification is necessary.

2.8 INTERNAL STANDARD RESULTS

For the VOC and SVOC analyses, the area counts for the internal standards were within the QC limits of -50 percent to +100 percent from the calibration standard. The retention times of the internal standards were within the QC limit of \pm 30 seconds for both the VOC and SVOC analyses. Internal standards do not apply to the PCB and pesticides analyses.

2.9 TARGET COMPOUND IDENTIFICATION

A spot check of the mass spectra for detected VOCs and SVOCs in samples matched those of the mass spectra for the standards. The PCBs detected in the samples matched the chromatographic peak patterns of the standards. The pesticides detected matched the retention times of the standards.

3.0 INORGANIC DATA VALIDATION RESULTS

The results of START's data validation are summarized below in terms of the QC parameters reviewed.

3.1 HOLDING TIMES

All samples were analyzed within the holding time limits of 6 months for metals and 28 days for mercury.

Data Validation for
Swift Chemical and Agricultural Site
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3.2 INITIAL AND CONTINUING CALIBRATIONS

Recoveries during the initial and continuing calibrations were within the QC limits of 80 to 120 percent for mercury and 90 to 110 percent for all other metals.

3.3 BLANK RESULTS

Initial calibration blanks, continuing calibration blanks, and preparation blanks were run with each analytical batch. Target analytes were not detected in the blanks at concentrations above the laboratory reporting limits.

3.4 LCS RESULTS

An LCS was analyzed with each analytical batch. All LCS results were within QC limits specified by the laboratory.

3.5 MS/MSD RESULTS

The recovery for the MS and MSD samples were within the QC limit of 80 to 120 percent for inorganic analytes.

4.0 OVERALL ASSESSMENT OF DATA

The overall quality of the data generated by Environmetrics is acceptable for use as qualified.

ATTACHMENT

ENVIRONMETRICS SUMMARY OF ANALYTICAL RESULTS

(53 Sheets)

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

ENVIRONMETRICS, INC.

11401 Moog Drive
St. Louis, MO 63146
(314) 432-0550

SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
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PAGE One

SAMPLE ID: FORMER S1, 027-01
LAB ID: 9912/5571-001
PARENT ORDER NUMBER: 172699

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
110-86-1	Pyridine	22178	U
62-75-9	n-Nitrosodimethylamine	4436	U
62-53-3	Aniline	4436	U
111-44-4	Bis(2-chloroethyl)ether	4436	U
95-57-8	2-Chlorophenol	4436	U
108-95-2	Phenol	4436	U
541-73-1	1,3-Dichlorobenzene	4436	U
106-46-7	1,4-Dichlorobenzene	4436	U
95-50-1	1,2-Dichlorobenzene	4436	U
100-51-6	Benzyl alcohol	4436	U
108-60-1	2,2-oxybis(1-Chloropropane)	4436	U
95-48-7	2-Methylphenol	4436	U
67-72-1	Hexachloroethane	4436	U
621-64-7	N-Nitrosodi-n-propylamine	4436	U
106-44-5	4-Methylphenol	4436	U
98-95-3	Nitrobenzene	4436	U
78-59-1	Isophorone	4436	U
88-75-5	2-Nitrophenol	4436	U
105-67-9	2,4-Dimethylphenol	4436	U
111-91-1	Bis(2-chloroethoxy)methane	4436	U
120-83-2	2,4-Dichlorophenol	4436	U
120-82-1	1,2,4-Trichlorobenzene	4436	U
91-20-3	Naphthalene	4436	U
65-85-0	Benzoic acid	4436	U
106-47-8	4-Chloroaniline	4436	U
87-68-3	Hexachlorobutadiene	4436	U
91-57-6	2-Methylnaphthalene	4436	U
59-50-7	4-Chloro-3-methylphenol	4436	U
77-47-4	Hexachlorocyclopentadiene	4436	U
88-06-2	2,4,6-Trichlorophenol	4436	U
95-95-4	2,4,5-Trichlorophenol	4436	U
91-58-7	2-Chloronaphthalene	4436	U
88-74-4	2-Nitroaniline	4436	U
208-96-8	Acenaphthylene	4436	U
131-11-3	Dimethyl phthalate	4436	U
606-20-2	2,6-Dinitrotoluene	4436	U
83-32-9	Acenaphthene	4436	U

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PO: O1LG-P0028

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SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
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PAGE Two

SAMPLE ID: FORMER S1, 027-01
LAB ID: 9912/5571-001
PARENT ORDER NUMBER: 172699

<u>CAS NUMBER</u>		<u>QUANT FACTOR :</u>	0.00
		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
99-09-2	3-Nitroaniline	4436	U
51-28-5	2,4-Dinitrophenol	4436	U
132-64-9	Dibenzofuran	4436	U
121-14-2	2,4-Dinitrotoluene	4436	U
100-02-7	4-Nitrophenol	4436	U
86-73-7	Fluorene	4436	U
7005-72-3	4-Chlorophenyl phenyl ether	4436	U
84-66-2	Diethyl phthalate	4436	U
100-01-6	4-Nitroaniline	4436	U
534-52-1	4,6-Dinitro-2-methylphenol	4436	U
86-30-6	N-Nitrosodiphenylamine	4436	U
103-33-3	Azobenzene (1,2-Diphenylhydrazine)	4436	U
101-55-3	4-Bromophenyl phenyl ether	4436	U
118-74-1	Hexachlorobenzene	4436	U
1912-24-9	Atrazine	4436	U
87-86-5	Pentachlorophenol	4436	U
85-01-8	Phenanthrene	4436	550J
120-12-7	Anthracene	4436	U
86-74-8	Carbazole	4436	U
15972-60-8	Alachlor	4436	U
84-74-2	Di-n-butyl phthalate	4436	U
206-44-0	Fluoranthene	4436	1200J
92-87-5	Benzidine	4436	U
129-00-0	Pyrene	4436	910J
85-68-7	Butyl benzyl phthalate	4436	U
56-55-3	Benz(a)anthracene	4436	420J
218-01-9	Chrysene	4436	540J
91-94-1	3,3'-Dichlorobenzidine	4436	U
117-81-7	Bis(2-ethylhexyl)phthalate	4436	U
117-84-0	Di-n-octyl phthalate	4436	U
205-99-2	Benzo(b)fluoranthene	4436	900J
207-08-9	Benzo(k)fluoranthene	4436	U
50-32-8	Benzo(a)pyrene	4436	480J
193-39-5	Ieno(1,2,3-cd)pyrene	4436	U
53-70-3	Dibenz(a,h)anthracene	4436	U
191-24-2	Benzo(g,h,i)perylene	4436	U

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SEMIVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Three

SAMPLE ID: FORMER S1, 027-01
LAB ID: 9912/5571-001
PARENT ORDER NUMBER: 172699

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>	<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
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SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
321-60-8	2-Fluorobiphenyl	119
367-12-4	2-Fluorophenol	74
4165-60-0	Nitrobenzene-d5	95
4165-62-2	Phenol-d5	84
1718-51-0	p-Terphenyl-d14	91
118-79-6	2,4,6-Tribromophenol	95

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 11:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

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SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE One

SAMPLE ID: BACKGROUND, 027-02

LAB ID: 9912/5571-002

PARENT ORDER NUMBER: 172700

QUANT FACTOR : 414.08

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION	
		<u>LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
110-86-1	Pyridine	20704	U
62-75-9	n-Nitrosodimethylamine	4141	U
62-53-3	Aniline	4141	U
111-44-4	Bis(2-chloroethyl)ether	4141	U
95-57-8	2-Chlorophenol	4141	U
108-95-2	Phenol	4141	U
541-73-1	1,3-Dichlorobenzene	4141	U
106-46-7	1,4-Dichlorobenzene	4141	U
95-50-1	1,2-Dichlorobenzene	4141	U
100-51-6	Benzyl alcohol	4141	U
108-60-1	2,2-oxybis(1-Chloropropane)	4141	U
95-48-7	2-Methylphenol	4141	U
67-72-1	Hexachloroethane	4141	U
621-64-7	N-Nitrosodi-n-propylamine	4141	U
106-44-5	4-Methylphenol	4141	U
98-95-3	Nitrobenzene	4141	U
78-59-1	Isophorone	4141	U
88-75-5	2-Nitrophenol	4141	U
105-67-9	2,4-Dimethylphenol	4141	U
111-91-1	Bis(2-chloroethoxy)methane	4141	U
120-83-2	2,4-Dichlorophenol	4141	U
120-82-1	1,2,4-Trichlorobenzene	4141	U
91-20-3	Naphthalene	4141	U
65-85-0	Benzoic acid	4141	U
106-47-8	4-Chloroaniline	4141	U
87-68-3	Hexachlorobutadiene	4141	U
91-57-6	2-Methylnaphthalene	4141	U
59-50-7	4-Chloro-3-methylphenol	4141	U
77-47-4	Hexachlorocyclopentadiene	4141	U
88-06-2	2,4,6-Trichlorophenol	4141	U
95-95-4	2,4,5-Trichlorophenol	4141	U
91-58-7	2-Chloronaphthalene	4141	U
88-74-4	2-Nitroaniline	4141	U
208-96-8	Acenaphthylene	4141	U
131-11-3	Dimethyl phthalate	4141	U
606-20-2	2,6-Dinitrotoluene	4141	U
83-32-9	Acenaphthene	4141	U

TETRA TECH EM, INC.
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PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Two

SAMPLE ID: BACKGROUND, 027-02

LAB ID: 9912/5571-002

PARENT ORDER NUMBER: 172700

<u>CAS NUMBER</u>		QUANT FACTOR :	0.00
		PRACTICAL QUANTITATION LIMIT <u>µg/KG</u>	RESULTS <u>µg/KG</u>
99-09-2	3-Nitroaniline	4141	U
51-28-5	2,4-Dinitrophenol	4141	U
132-64-9	Dibenzofuran	4141	U
121-14-2	2,4-Dinitrotoluene	4141	U
100-02-7	4-Nitrophenol	4141	U
86-73-7	Fluorene	4141	U
7005-72-3	4-Chlorophenyl phenyl ether	4141	U
84-66-2	Diethyl phthalate	4141	U
100-01-6	4-Nitroaniline	4141	U
534-52-1	4,6-Dinitro-2-methylphenol	4141	U
86-30-6	N-Nitrosodiphenylamine	4141	U
103-33-3	Azobenzene (1,2-Diphenylhydrazine)	4141	U
101-55-3	4-Bromophenyl phenyl ether	4141	U
118-74-1	Hexachlorobenzene	4141	U
1912-24-9	Atrazine	4141	U
87-86-5	Pentachlorophenol	4141	U
85-01-8	Phenanthrene	4141	1400J
120-12-7	Anthracene	4141	U
86-74-8	Carbazole	4141	U
15972-60-8	Alachlor	4141	U
84-74-2	Di-n-butyl phthalate	4141	U
206-44-0	Fluoranthene	4141	2800J
92-87-5	Benzidine	4141	U
129-00-0	Pyrene	4141	2200J
85-68-7	Butyl benzyl phthalate	4141	U
56-55-3	Benz(a)anthracene	4141	998J
218-01-9	Chrysene	4141	1300J
91-94-1	3,3'-Dichlorobenzidine	4141	U
117-81-7	Bis(2-ethylhexyl)phthalate	4141	890J
117-84-0	Di-n-octyl phthalate	4141	U
205-99-2	Benzo(b)fluoranthene	4141	1800J
207-08-9	Benzo(k)fluoranthene	4141	720J
50-32-8	Benzo(a)pyrene	4141	1000J
193-39-5	Iproto(1,2,3-cd)pyrene	4141	350J
53-70-3	Dibenz(a,h)anthracene	4141	U
191-24-2	Benzo(g,h,i)perylene	4141	U

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SEMIVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Three

SAMPLE ID: BACKGROUND, 027-02

LAB ID: 9912/5571-002

PARENT ORDER NUMBER: 172700

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>	<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
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SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
321-60-8	2-Fluorobiphenyl	121
367-12-4	2-Fluorophenol	84
4165-60-0	Nitrobenzene-d5	.98
4165-62-2	Phenol-d5	92
1718-51-0	p-Terphenyl-d14	105
118-79-6	2,4,6-Tribromophenol	78

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 11:25
DATE RECEIVED: 04/26/01
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ANALYST: J.K.

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SEMIVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE One

SAMPLE ID: TOTES AREA, 027-04
LAB ID: 9912/5571-004
PARENT ORDER NUMBER: 172702

QUANT FACTOR : 562.97

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT µg/KG</u>	<u>RESULTS µg/KG</u>
110-86-1	Pyridine	28148	U
62-75-9	n-Nitrosodimethylamine	5630	U
62-53-3	Aniline	5630	U
111-44-4	Bis(2-chloroethyl)ether	5630	U
95-57-8	2-Chlorophenol	5630	U
108-95-2	Phenol	5630	U
541-73-1	1,3-Dichlorobenzene	5630	U
106-46-7	1,4-Dichlorobenzene	5630	U
95-50-1	1,2-Dichlorobenzene	5630	U
100-51-6	Benzyl alcohol	5630	U
108-60-1	2,2-oxybis(1-Chloropropane)	5630	U
95-48-7	2-Methylphenol	5630	U
67-72-1	Hexachloroethane	5630	U
621-64-7	N-Nitrosodi-n-propylamine	5630	U
106-44-5	4-Methylphenol	5630	U
98-95-3	Nitrobenzene	5630	U
78-59-1	Isophorone	5630	U
88-75-5	2-Nitrophenol	5630	U
105-67-9	2,4-Dimethylphenol	5630	U
111-91-1	Bis(2-chloroethoxy)methane	5630	U
120-83-2	2,4-Dichlorophenol	5630	U
120-82-1	1,2,4-Trichlorobenzene	5630	U
91-20-3	Naphthalene	5630	U
65-85-0	Benzoic acid	5630	U
106-47-8	4-Chloroaniline	5630	U
87-68-3	Hexachlorobutadiene	5630	U
91-57-6	2-Methylnaphthalene	5630	U
59-50-7	4-Chloro-3-methylphenol	5630	U
77-47-4	Hexachlorocyclopentadiene	5630	U
88-06-2	2,4,6-Trichlorophenol	5630	U
95-95-4	2,4,5-Trichlorophenol	5630	U
91-58-7	2-Chloronaphthalene	5630	U
88-74-4	2-Nitroaniline	5630	U
208-96-8	Acenaphthylene	5630	U
131-11-3	Dimethyl phthalate	5630	U
606-20-2	2,6-Dinitrotoluene	5630	U
83-32-9	Acenaphthene	5630	U

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SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Two

SAMPLE ID: TOTES AREA, 027-04

LAB ID: 9912/5571-004

PARENT ORDER NUMBER: 172702

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
99-09-2	3-Nitroaniline	5630	U
51-28-5	2,4-Dinitrophenol	5630	U
132-64-9	Dibenzofuran	5630	U
121-14-2	2,4-Dinitrotoluene	5630	U
100-02-7	4-Nitrophenol	5630	U
86-73-7	Fluorene	5630	U
7005-72-3	4-Chlorophenyl phenyl ether	5630	U
84-66-2	Diethyl phthalate	5630	U
100-01-6	4-Nitroaniline	5630	U
534-52-1	4,6-Dinitro-2-methylphenol	5630	U
86-30-6	N-Nitrosodiphenylamine	5630	U
103-33-3	Azobenzene (1,2-Diphenylhydrazine)	5630	U
101-55-3	4-Bromophenyl phenyl ether	5630	U
118-74-1	Hexachlorobenzene	5630	U
1912-24-9	Atrazine	5630	U
87-86-5	Pentachlorophenol	5630	U
85-01-8	Phenanthrene	5630	U
120-12-7	Anthracene	5630	U
86-74-8	Carbazole	5630	U
15972-60-8	Alachlor	5630	U
84-74-2	Di-n-butyl phthalate	5630	U
206-44-0	Fluoranthene	5630	410J
92-87-5	Benzidine	5630	U
129-00-0	Pyrene	5630	U
85-68-7	Butyl benzyl phthalate	5630	U
56-55-3	Benz(a)anthracene	5630	U
218-01-9	Chrysene	5630	U
91-94-1	3,3'-Dichlorobenzidine	5630	U
117-81-7	Bis(2-ethylhexyl)phthalate	5630	U
117-84-0	Di-n-octyl phthalate	5630	U
205-99-2	Benzo(b)fluoranthene	5630	U
207-08-9	Benzo(k)fluoranthene	5630	U
50-32-8	Benzo(a)pyrene	5630	U
193-39-5	Ieno(1,2,3-cd)pyrene	5630	U
53-70-3	Dibenz(a,h)anthracene	5630	U
191-24-2	Benzo(g,h,i)perylene	5630	U

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ENVIRONMETRICS, INC.

11401 Moog Drive
St. Louis, MO 63146
(314) 432-0550

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

SEMIVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Three

SAMPLE ID: TOTES AREA, 027-04

LAB ID: 9912/5571-004

PARENT ORDER NUMBER: 172702

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>	<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
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SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
321-60-8	2-Fluorobiphenyl	120
367-12-4	2-Fluorophenol	75
4165-60-0	Nitrobenzene-d5	96
4165-62-2	Phenol-d5	85
1718-51-0	p-Terphenyl-d14	101
118-79-6	2,4,6-Tribromophenol	98

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
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ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SEMIVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE One

SAMPLE ID: SECONDARY CONTAINMENT, 027-05
LAB ID: 9912/5571-005
PARENT ORDER NUMBER: 172705

QUANT FACTOR : 230.47

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION <u>LIMIT</u> <u>µg/KG</u>	RESULTS <u>µg/KG</u>
110-86-1	Pyridine	11523	U
62-75-9	n-Nitrosodimethylamine	2305	U
62-53-3	Aniline	2305	U
111-44-4	Bis(2-chloroethyl)ether	2305	U
95-57-8	2-Chlorophenol	2305	U
108-95-2	Phenol	2305	U
541-73-1	1,3-Dichlorobenzene	2305	U
106-46-7	1,4-Dichlorobenzene	2305	U
95-50-1	1,2-Dichlorobenzene	2305	U
100-51-6	Benzyl alcohol	2305	U
108-60-1	2,2-oxybis(1-Chloropropane)	2305	U
95-48-7	2-Methylphenol	2305	U
67-72-1	Hexachloroethane	2305	U
621-64-7	N-Nitrosodi-n-propylamine	2305	U
106-44-5	4-Methylphenol	2305	U
98-95-3	Nitrobenzene	2305	U
78-59-1	Isophorone	2305	U
88-75-5	2-Nitrophenol	2305	U
105-67-9	2,4-Dimethylphenol	2305	U
111-91-1	Bis(2-chloroethoxy)methane	2305	U
120-83-2	2,4-Dichlorophenol	2305	U
120-82-1	1,2,4-Trichlorobenzene	2305	U
91-20-3	Naphthalene	2305	U
65-85-0	Benzoic acid	2305	U
106-47-8	4-Chloroaniline	2305	U
87-68-3	Hexachlorobutadiene	2305	U
91-57-6	2-Methylnaphthalene	2305	U
59-50-7	4-Chloro-3-methylphenol	2305	U
77-47-4	Hexachlorocyclopentadiene	2305	U
88-06-2	2,4,6-Trichlorophenol	2305	U
95-95-4	2,4,5-Trichlorophenol	2305	U
91-58-7	2-Chloronaphthalene	2305	U
88-74-4	2-Nitroaniline	2305	U
208-96-8	Acenaphthylene	2305	U
131-11-3	Dimethyl phthalate	2305	U
606-20-2	2,6-Dinitrotoluene	2305	U
83-32-9	Acenaphthene	2305	U

TETRA TECH EM, INC.
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ENVIRONMETRICS, INC.

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INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Two

SAMPLE ID: SECONDARY CONTAINMENT, 027-05

LAB ID: 9912/5571-005

PARENT ORDER NUMBER: 172705

CAS NUMBER		QUANT FACTOR :	0.00
		PRACTICAL QUANTITATION LIMIT	RESULTS
		µg/KG	µg/KG
99-09-2	3-Nitroaniline	2305	U
51-28-5	2,4-Dinitrophenol	2305	U
132-64-9	Dibenzofuran	2305	U
121-14-2	2,4-Dinitrotoluene	2305	U
100-02-7	4-Nitrophenol	2305	U
86-73-7	Fluorene	2305	U
7005-72-3	4-Chlorophenyl phenyl ether	2305	U
84-66-2	Diethyl phthalate	2305	U
100-01-6	4-Nitroaniline	2305	U
534-52-1	4,6-Dinitro-2-methylphenol	2305	U
86-30-6	N-Nitrosodiphenylamine	2305	U
103-33-3	Azobenzene (1,2-Diphenylhydrazine)	2305	U
101-55-3	4-Bromophenyl phenyl ether	2305	U
118-74-1	Hexachlorobenzene	2305	U
1912-24-9	Atrazine	2305	U
87-86-5	Pentachlorophenol	2305	U
85-01-8	Phenanthrene	2305	160J
120-12-7	Anthracene	2305	U
86-74-8	Carbazole	2305	U
15972-60-8	Alachlor	2305	U
84-74-2	Di-n-butyl phthalate	2305	U
206-44-0	Fluoranthene	2305	180J
92-87-5	Benzidine	2305	U
129-00-0	Pyrene	2305	U
85-68-7	Butyl benzyl phthalate	2305	U
56-55-3	Benz(a)anthracene	2305	U
218-01-9	Chrysene	2305	270J
91-94-1	3,3'-Dichlorobenzidine	2305	U
117-81-7	Bis(2-ethylhexyl)phthalate	2305	U
117-84-0	Di-n-octyl phthalate	2305	U
205-99-2	Benzo(b)fluoranthene	2305	380J
207-08-9	Benzo(k)fluoranthene	2305	U
50-32-8	Benzo(a)pyrene	2305	190J
193-39-5	Ieno(1,2,3-cd)pyrene	2305	U
53-70-3	Dibenz(a,h)anthracene	2305	U
191-24-2	Benzo(g,h,i)perylene	2305	U

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PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SEMICVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Three

SAMPLE ID: SECONDARY CONTAINMENT, 027-05
LAB ID: 9912/5571-005
PARENT ORDER NUMBER: 172705

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>	<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
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SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
321-60-8	2-Fluorobiphenyl	118
367-12-4	2-Fluorophenol	68
4165-60-0	Nitrobenzene-d5	.89
4165-62-2	Phenol-d5	80
1718-51-0	p-Terphenyl-d14	95
118-79-6	2,4,6-Tribromophenol	91

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:10
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

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ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE One

SAMPLE ID: TURMER TANK STORAGE, 027-06

LAB ID: 9912/5571-006

PARENT ORDER NUMBER: 172706

QUANT FACTOR : 377.42

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
110-86-1	Pyridine	18871	U
62-75-9	n-Nitrosodimethylamine	3774	U
62-53-3	Aniline	3774	U
111-44-4	Bis(2-chloroethyl)ether	3774	U
95-57-8	2-Chlorophenol	3774	U
108-95-2	Phenol	3774	U
541-73-1	1,3-Dichlorobenzene	3774	U
106-46-7	1,4-Dichlorobenzene	3774	U
95-50-1	1,2-Dichlorobenzene	3774	U
100-51-6	Benzyl alcohol	3774	U
108-60-1	2,2-oxybis(1-Chloropropane)	3774	U
95-48-7	2-Methylphenol	3774	U
67-72-1	Hexachloroethane	3774	U
621-64-7	N-Nitrosodi-n-propylamine	3774	U
106-44-5	4-Methylphenol	3774	U
98-95-3	Nitrobenzene	3774	U
78-59-1	Isophorone	3774	U
88-75-5	2-Nitrophenol	3774	U
105-67-9	2,4-Dimethylphenol	3774	U
111-91-1	Bis(2-chloroethoxy)methane	3774	U
120-83-2	2,4-Dichlorophenol	3774	U
120-82-1	1,2,4-Trichlorobenzene	3774	U
91-20-3	Naphthalene	3774	U
65-85-0	Benzoic acid	3774	U
106-47-8	4-Chloroaniline	3774	U
87-68-3	Hexachlorobutadiene	3774	U
91-57-6	2-Methylnaphthalene	3774	U
59-50-7	4-Chloro-3-methylphenol	3774	U
77-47-4	Hexachlorocyclopentadiene	3774	U
88-06-2	2,4,6-Trichlorophenol	3774	U
95-95-4	2,4,5-Trichlorophenol	3774	U
91-58-7	2-Chloronaphthalene	3774	U
88-74-4	2-Nitroaniline	3774	U
208-96-8	Acenaphthylene	3774	U
131-11-3	Dimethyl phthalate	3774	U
606-20-2	2,6-Dinitrotoluene	3774	U
83-32-9	Acenaphthene	3774	U

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(314) 432-0550

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

SEMOVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Two

SAMPLE ID: TURMER TANK STORAGE, 027-06
LAB ID: 9912/5571-006
PARENT ORDER NUMBER: 172706

<u>CAS NUMBER</u>		QUANT FACTOR :	0.00
		PRACTICAL QUANTITATION LIMIT	<u>RESULTS</u> <u>µg/KG</u>
99-09-2	3-Nitroaniline	3774	U
51-28-5	2,4-Dinitrophenol	3774	U
132-64-9	Dibenzofuran	3774	U
121-14-2	2,4-Dinitrotoluene	3774	U
100-02-7	4-Nitrophenol	3774	U
86-73-7	Fluorene	3774	U
7005-72-3	4-Chlorophenyl phenyl ether	3774	U
84-66-2	Diethyl phthalate	3774	U
100-01-6	4-Nitroaniline	3774	U
534-52-1	4,6-Dinitro-2-methylphenol	3774	U
86-30-6	N-Nitrosodiphenylamine	3774	U
103-33-3	Azobenzene (1,2-Diphenylhydrazine)	3774	U
101-55-3	4-Bromophenyl phenyl ether	3774	U
118-74-1	Hexachlorobenzene	3774	U
1912-24-9	Atrazine	3774	U
87-86-5	Pentachlorophenol	3774	U
85-01-8	Phenanthrene	3774	U
120-12-7	Anthracene	3774	U
86-74-8	Carbazole	3774	U
15972-60-8	Alachlor	3774	U
84-74-2	Di-n-butyl phthalate	3774	U
206-44-0	Fluoranthene	3774	430J
92-87-5	Benzidine	3774	U
129-00-0	Pyrene	3774	360J
85-68-7	Butyl benzyl phthalate	3774	U
56-55-3	Benz(a)anthracene	3774	U
218-01-9	Chrysene	3774	U
91-94-1	3,3'-Dichlorobenzidine	3774	U
117-81-7	Bis(2-ethylhexyl)phthalate	3774	U
117-84-0	Di-n-octyl phthalate	3774	U
205-99-2	Benzo(b)fluoranthene	3774	U
207-08-9	Benzo(k)fluoranthene	3774	U
50-32-8	Benzo(a)pyrene	3774	U
193-39-5	Indeno(1,2,3-cd)pyrene	3774	U
53-70-3	Dibenz(a,h)anthracene	3774	U
191-24-2	Benzo(g,h,i)perylene	3774	U

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ENVIRONMETRICS, INC.

11401 Moog Drive
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(314) 432-0550

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

SEMIVOLATILE COMP. BY GC/MS CAPILLARY COLUMN
METHOD 8270
PAGE Three

SAMPLE ID: TURMER TANK STORAGE, 027-06

LAB ID: 9912/5571-006

PARENT ORDER NUMBER: 172706

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>	<u>PRACTICAL QUANTITATION LIMIT µg/KG</u>	<u>RESULTS µg/KG</u>
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SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
321-60-8	2-Fluorobiphenyl	120
367-12-4	2-Fluorophenol	96
4165-60-0	Nitrobenzene-d5	101
4165-62-2	Phenol-d5	106
1718-51-0	p-Terphenyl-d14	106
118-79-6	2,4,6-Tribromophenol	110

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:31
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

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ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE One

SAMPLE ID: TOTES AREA, 027-04

LAB ID: 9912/5571-004

PARENT ORDER NUMBER: 172703

QUANT FACTOR : 1.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/Kg</u>	<u>RESULTS</u> <u>µg/Kg</u>
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-04	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5	U
67-64-1	Acetone	20	61
108-05-4	Vinyl Acetate	10	U
74-88-4	Methyl Iodide	5	U
75-15-0	Carbon disulfide	10	U
107-05-1	Allyl Chloride	5	U
75-05-8	Acetonitrile	10	U
75-09-2	Methylene chloride	20	22
107-13-1	Acrylonitrile	10	U
1634-04-4	Methyl tert butyl ether	10	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
107-02-8	Acrolein	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone (MEK)	5	U
594-20-7	2,2-Dichloropropane	5	U
107-12-0	Propionitrile	5	U
126-98-7	Methacrylonitrile	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
80-62-6	Methyl Methacrylate	5	U
123-91-1	1,4-Dioxane	5	U

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ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE Two

SAMPLE ID: TOTES AREA, 027-04

LAB ID: 9912/5571-004

PARENT ORDER NUMBER: 172703

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/Kg</u>	<u>RESULTS</u> <u>µg/Kg</u>
74-95-3	Dibromomethane	5	U
78-83-1	Isobutyl Alcohol	10	U
75-27-4	Bromodichloromethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
76-46-9	2-Nitropropane	10	U
108-88-3	Toluene	5	20
10061-01-5	cis-1,3-Dichloropropene	5	U
97-63-2	Ethyl Methacrylate	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
142-28-9	1,3-Dichloropropane	5	U
591-78-6	2-Hexanone	10	U
124-48-1	Chlorodibromomethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	m&p-Xylene	5	5.1
95-47-6	o-Xylene	5	2.3J
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-86-1	Bromobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
96-18-4	1,2,3-Trichloropropane	5	U
103-65-1	n-Propylbenzene	5	U
95-49-8	2-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
106-43-4	4-Chlorotoluene	5	U
98-06-6	t-Butylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	2.0J
135-98-8	sec-Butylbenzene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
106-46-7	1,4-Dichlorobenzene	5	U

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

ENVIRONMETRICS, INC.

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VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE Three

SAMPLE ID: TOTES AREA, 027-04
LAB ID: 9912/5571-004
PARENT ORDER NUMBER: 172703

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION LIMIT <u>µg/Kg</u>	RESULTS <u>µg/Kg</u>
95-50-1	1,2-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	10	U
91-20-3	Naphthalene	10	U
87-61-6	1,2,3-Trichlorobenzene	5	U
110-75-8	2-Chloroethyl vinyl ether	10	U

SURROGATE RECOVERY RESULTS

		% RECOVERY
460-00-4	4-Bromofluorobenzene	83
17060-07-0	1,2-Dichloroethane-d4	91
2037-26-5	Toluene-d8	90

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/04/01
ANALYST: R.R.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
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St. Louis, MO 63146
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ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE One

SAMPLE ID: SECONDARY CONTAINMENT, 027-05

LAB ID: 9912/5571-005

PARENT ORDER NUMBER: 172704

QUANT FACTOR : 1.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>ug/Kg</u>	<u>RESULTS</u> <u>ug/Kg</u>
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-04	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5	U
67-64-1	Acetone	20	77
108-05-4	Vinyl Acetate	10	U
74-88-4	Methyl Iodide	5	U
75-15-0	Carbon disulfide	10	U
107-05-1	Allyl Chloride	5	U
75-05-8	Acetonitrile	10	U
75-09-2	Methylene chloride	20	18J
107-13-1	Acrylonitrile	10	U
1634-04-4	Methyl tert butyl ether	10	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
107-02-8	Acrolein	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone (MEK)	5	U
594-20-7	2,2-Dichloropropane	5	U
107-12-0	Propionitrile	5	U
126-98-7	Methacrylonitrile	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
80-62-6	Methyl Methacrylate	5	U
123-91-1	1,4-Dioxane	5	U

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ENVIRONMETRICS, INC.

11401 Moog Drive
St. Louis, MO 63146
(314) 432-0550

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE Two

SAMPLE ID: SECONDARY CONTAINMENT, 027-05

LAB ID: 9912/5571-005

PARENT ORDER NUMBER: 172704

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT µg/Kg</u>	<u>RESULTS µg/Kg</u>
74-95-3	Dibromomethane	5	U
78-83-1	Isobutyl Alcohol	10	U
75-27-4	Bromodichloromethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pantanone	10	U
76-46-9	2-Nitropropane	10	U
108-88-3	Toluene	5	3.7J
10061-01-5	cis-1,3-Dichloropropene	5	U
97-63-2	Ethyl Methacrylate	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
142-28-9	1,3-Dichloropropane	5	U
591-78-6	2-Hexanone	10	U
124-48-1	Chlorodibromomethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	m&p-Xylene	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-86-1	Bromobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
96-18-4	1,2,3-Trichloropropane	5	U
103-65-1	n-Propylbenzene	5	U
95-49-8	2-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
106-43-4	4-Chlorotoluene	5	U
98-06-6	t-Butylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
106-46-7	1,4-Dichlorobenzene	5	U

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ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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(314) 432-0550

VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE Three

SAMPLE ID: SECONDARY CONTAINMENT, 027-05

LAB ID: 9912/5571-005

PARENT ORDER NUMBER: 172704

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT µg/Kg</u>	<u>RESULTS µg/Kg</u>
95-50-1	1,2-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	10	U
91-20-3	Naphthalene	10	U
87-61-6	1,2,3-Trichlorobenzene	5	U
110-75-8	2-Chloroethyl vinyl ether	10	U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
460-00-4	4-Bromofluorobenzene	93
17060-07-0	1,2-Dichloroethane-d4	87
2037-26-5	Toluene-d8	93

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:10
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/04/01
ANALYST: R.R.

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ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE One

SAMPLE ID: TURMER TANK STORAGE, 027-06

LAB ID: 9912/5571-006

PARENT ORDER NUMBER: 172707

<u>CAS NUMBER</u>		QUANT FACTOR :	1.00
		PRACTICAL QUANTITATION <u>LIMIT</u> <u>µg/Kg</u>	<u>RESULTS</u> <u>µg/Kg</u>
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-04	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5	U
67-64-1	Acetone	20	180
108-05-4	Vinyl Acetate	10	U
74-88-4	Methyl Iodide	5	U
75-15-0	Carbon disulfide	10	U
107-05-1	Allyl Chloride	5	U
75-05-8	Acetonitrile	10	U
75-09-2	Methylene chloride	20	19J
107-13-1	Acrylonitrile	10	U
1634-04-4	Methyl tert butyl ether	10	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
107-02-8	Acrolein	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-Butanone (MEK)	5	U
594-20-7	2,2-Dichloropropane	5	U
107-12-0	Propionitrile	5	U
126-98-7	Methacrylonitrile	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
80-62-6	Methyl Methacrylate	5	U
123-91-1	1,4-Dioxane	5	U

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(314) 432-0550

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE Two

SAMPLE ID: TURMER TANK STORAGE, 027-06

LAB ID: 9912/5571-006

PARENT ORDER NUMBER: 172707

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/Kg</u>	<u>RESULTS</u> <u>µg/Kg</u>
74-95-3	Dibromomethane	5	U
78-83-1	Isobutyl Alcohol	10	U
75-27-4	Bromodichloromethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
76-46-9	2-Nitropropane	10	U
108-88-3	Toluene	5	4.4J
10061-01-5	cis-1,3-Dichloropropene	5	U
97-63-2	Ethyl Methacrylate	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
142-28-9	1,3-Dichloropropane	5	U
591-78-6	2-Hexanone	10	U
124-48-1	Chlorodibromomethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	m&p-Xylene	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-86-1	Bromobenzene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
96-18-4	1,2,3-Trichloropropene	5	U
103-65-1	n-Propylbenzene	5	U
95-49-8	2-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
106-43-4	4-Chlorotoluene	5	U
98-06-6	t-Butylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
106-46-7	1,4-Dichlorobenzene	5	U

TETRA TECH EM, INC.
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ENVIRONMETRICS, INC.

11401 Moog Drive
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(314) 432-0550

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

VOLATILE ORGANIC COMPOUNDS CAPILLARY COL
METHOD 8260IX
PAGE Three

SAMPLE ID: TURMER TANK STORAGE, 027-06

LAB ID: 9912/5571-006

PARENT ORDER NUMBER: 172707

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/Kg</u>	<u>RESULTS</u> <u>µg/Kg</u>
95-50-1	1,2-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	10	U
91-20-3	Naphthalene	10	U
87-61-6	1,2,3-Trichlorobenzene	5	U
110-75-8	2-Chloroethyl vinyl ether	10	U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
460-00-4	4-Bromofluorobenzene	92
17060-07-0	1,2-Dichloroethane-d4	88
2037-26-5	Toluene-d8	92

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:31
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/04/01
ANALYST: R.R.

- TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

- ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028

- PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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ANALYSIS RESULTS

- SAMPLE ID: FORMER S1, 027-01
LAB ID: 9912005571-001
DATE COLLECTED: 04/25/01 11:00
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00	mg/Kg
TOTAL BARIUM	SW-846 6010A	73.9	mg/Kg
TOTAL CADMIUM	SW-846 6010A	9.08	mg/Kg
TOTAL CHROMIUM	SW-846 6010A	10.8	mg/Kg
TOTAL LEAD	SW-846 6010A	190	mg/Kg
TOTAL MERCURY	SW-846 7471A	0.200	mg/Kg
TOTAL SELENIUM	SW-846 6010A	<4.70	mg/Kg
TOTAL SILVER	SW-846 6010A	1.30 B	mg/Kg
PH	SW-846 9045	7.550	05/01/01 M.U

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

- TETRA TECH EM, INC.
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ST. LOUIS, MO 63123

- ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028

- PROJECT NO: G9009E 0104027, SWIFT CHEM AG

ENVIRONMETRICS, INC.

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ANALYSIS RESULTS

- SAMPLE ID: BACKGROUND, 027-02
LAB ID: 9912005571-002
DATE COLLECTED: 04/25/01 11:25
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00 mg/Kg	05/10/01 J.T
TOTAL BARIUM	SW-846 6010A	112 mg/Kg	
TOTAL CADMIUM	SW-846 6010A	4.82 mg/Kg	
TOTAL CHROMIUM	SW-846 6010A	21.6 mg/Kg	
TOTAL LEAD	SW-846 6010A	145 mg/Kg	
TOTAL MERCURY	SW-846 7471A	0.100 mg/Kg	
TOTAL SELENIUM	SW-846 6010A	<4.70 mg/Kg	
TOTAL SILVER	SW-846 6010A	1.53 B mg/Kg	
PH	SW-846 9045	8.240	05/01/01 M.U

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

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ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028
PROJECT NO: G9009E 0104027, SWIFT CHEM AG

ANALYSIS RESULTS

SAMPLE ID: RESERVOIR, 027-03
LAB ID: 9912005571-003
DATE COLLECTED: 04/25/01 11:45
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00 mg/Kg	05/10/01 J.T
TOTAL BARIUM	SW-846 6010A	332 mg/Kg	
TOTAL CADMIUM	SW-846 6010A	5.31 mg/Kg	
TOTAL CHROMIUM	SW-846 6010A	185 mg/Kg	
TOTAL LEAD	SW-846 6010A	88.9 mg/Kg	
TOTAL MERCURY	SW-846 7471A	0.100 mg/Kg	
TOTAL SELENIUM	SW-846 6010A	<4.70 mg/Kg	
TOTAL SILVER	SW-846 6010A	<0.600 mg/Kg	

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

- TETRA TECH EM, INC.
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- ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028
PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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ANALYSIS RESULTS

- SAMPLE ID: TOTES AREA, 027-04
LAB ID: 9912005571-004
DATE COLLECTED: 04/25/01 12:00
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00	mg/Kg
TOTAL BARIUM	SW-846 6010A	57.9	mg/Kg
TOTAL CADMIUM	SW-846 6010A	11.2	mg/Kg
TOTAL CHROMIUM	SW-846 6010A	21.4	mg/Kg
TOTAL LEAD	SW-846 6010A	363	mg/Kg
TOTAL MERCURY	SW-846 7471A	0.400	mg/Kg
TOTAL SELENIUM	SW-846 6010A	<4.70	mg/Kg
TOTAL SILVER	SW-846 6010A	1.56 B	mg/Kg
PH	SW-846 9045	7.100	05/01/01 M.U

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CARRIER

INVOICE: 53993
PO: O1LG-P0028
PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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(314) 432-0550

ANALYSIS RESULTS

SAMPLE ID: SECONDARY CONTAINMENT, 027-05
LAB ID: 9912005571-005
DATE COLLECTED: 04/25/01 12:10
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00 mg/Kg	05/10/01 J.T
TOTAL BARIUM	SW-846 6010A	98.0 mg/Kg	
TOTAL CADMIUM	SW-846 6010A	24.3 mg/Kg	
TOTAL CHROMIUM	SW-846 6010A	17.4 mg/Kg	
TOTAL LEAD	SW-846 6010A	302 mg/Kg	
TOTAL MERCURY	SW-846 7471A	0.500 mg/Kg	
TOTAL SELENIUM	SW-846 6010A	<4.70 mg/Kg	
TOTAL SILVER	SW-846 6010A	1.40 B mg/Kg	
PH	SW-846 9045	7.190	05/01/01 M.U

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

- TETRA TECH EM, INC.
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- ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028

- PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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ANALYSIS RESULTS

- SAMPLE ID: TURMER TANK STORAGE, 027-06
LAB ID: 9912005571-006
DATE COLLECTED: 04/25/01 12:31
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	7.57 B	mg/Kg
TOTAL BARIUM	SW-846 6010A	74.6	mg/Kg
TOTAL CADMIUM	SW-846 6010A	14.7	mg/Kg
TOTAL CHROMIUM	SW-846 6010A	17.1	mg/Kg
TOTAL LEAD	SW-846 6010A	796	mg/Kg
TOTAL MERCURY	SW-846 7471A	3.10	mg/Kg
TOTAL SELENIUM	SW-846 6010A	<4.70	mg/Kg
TOTAL SILVER	SW-846 6010A	3.46 B	mg/Kg
PH	SW-846 9045	7.410	05/01/01 M.U

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

- TETRA TECH EM, INC.
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ST. LOUIS, MO 63123

- ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028

- PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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(314) 432-0550

ANALYSIS RESULTS

SAMPLE ID: DITCH SED, 027-07
LAB ID: 9912005571-007
DATE COLLECTED: 04/25/01 12:20
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00 mg/Kg	05/10/01 J.T
TOTAL BARIUM	SW-846 6010A	129 mg/Kg	
TOTAL CADMIUM	SW-846 6010A	11.8 mg/Kg	
TOTAL CHROMIUM	SW-846 6010A	42.0 mg/Kg	
TOTAL LEAD	SW-846 6010A	1671 mg/Kg	
TOTAL MERCURY	SW-846 7471A	6.80 mg/Kg	
TOTAL SELENIUM	SW-846 6010A	<4.70 mg/Kg	
TOTAL SILVER	SW-846 6010A	<0.600 mg/Kg	

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

■ TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

■ ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028
■ PROJECT NO: G9009E 0104027, SWIFT CHEM AG

ENVIRONMETRICS, INC.

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ANALYSIS RESULTS

■ SAMPLE ID: WATER SAMPLE, 027-08
LAB ID: 9912005571-008
DATE COLLECTED: 04/25/01 14:40
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	0.045 B	mg/L
TOTAL BARIUM	SW-846 6010A	0.048	mg/L
TOTAL CADMIUM	SW-846 6010A	0.087	mg/L
TOTAL CHROMIUM	SW-846 6010A	0.009 B	mg/L
TOTAL LEAD	SW-846 6010A	0.055 B	mg/L
TOTAL MERCURY	SW-846 7470A	<0.0002	mg/L
TOTAL SELENIUM	SW-846 6010A	<0.047	mg/L
TOTAL SILVER	SW-846 6010A	<0.006	mg/L

■ B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028
PROJECT NO: G9009E 0104027, SWIFT CHEM AG

ENVIRONMETRICS, INC.

11401 Moog Drive
St. Louis, MO 63146
(314) 432-0550

ANALYSIS RESULTS

SAMPLE ID: CREEKS SEDS, 027-09
LAB ID: 9912005571-009
DATE COLLECTED: 04/25/01 15:00
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00	mg/Kg
TOTAL BARIUM	SW-846 6010A	32.9	mg/Kg
TOTAL CADMIUM	SW-846 6010A	30.8	mg/Kg
TOTAL CHROMIUM	SW-846 6010A	5.73 B	mg/Kg
TOTAL LEAD	SW-846 6010A	94.6	mg/Kg
TOTAL MERCURY	SW-846 7471A	0.400	mg/Kg
TOTAL SELENIUM	SW-846 6010A	<4.70	mg/Kg
TOTAL SILVER	SW-846 6010A	0.668 B	mg/Kg

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

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PO: O1LG-P0028

- PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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ANALYSIS RESULTS

SAMPLE ID: CREEKS SEDS, 027-10
LAB ID: 9912005571-010
DATE COLLECTED: 04/25/01 15:05
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00	mg/Kg
TOTAL BARIUM	SW-846 6010A	298	mg/Kg
TOTAL CADMIUM	SW-846 6010A	19.5	mg/Kg
TOTAL CHROMIUM	SW-846 6010A	41.8	mg/Kg
TOTAL LEAD	SW-846 6010A	478	mg/Kg
TOTAL MERCURY	SW-846 7471A	3.90	mg/Kg
TOTAL SELENIUM	SW-846 6010A	<4.70	mg/Kg
TOTAL SILVER	SW-846 6010A	1.14 B	mg/Kg

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

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ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028

PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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ANALYSIS RESULTS

SAMPLE ID: CREEKS SEDS, 027-11
LAB ID: 9912005571-011
DATE COLLECTED: 04/25/01 15:10
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	5.68 B	mg/Kg
TOTAL BARIUM	SW-846 6010A	176	mg/Kg
TOTAL CADMIUM	SW-846 6010A	5.84	mg/Kg
TOTAL CHROMIUM	SW-846 6010A	30.3	mg/Kg
TOTAL LEAD	SW-846 6010A	358	mg/Kg
TOTAL MERCURY	SW-846 7471A	3.30	mg/Kg
TOTAL SELENIUM	SW-846 6010A	<4.70	mg/Kg
TOTAL SILVER	SW-846 6010A	1.21 B	mg/Kg

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

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ATTN: ART CURRIER

INVOICE: 53993
PO: O1LG-P0028
PROJECT NO: G9009E 0104027, SWIFT CHEM AG

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ANALYSIS RESULTS

SAMPLE ID: CREEKS SEDS, 027-12
LAB ID: 9912005571-012
DATE COLLECTED: 04/25/01 15:15
DATE RECEIVED: 04/26/01

<u>TEST PERFORMED</u>	<u>METHOD OF ANALYSIS</u>	<u>RESULTS</u>	<u>ANALYST</u>
TOTAL ARSENIC	SW-846 6010A	<3.00 mg/Kg	05/10/01 J.T
TOTAL BARIUM	SW-846 6010A	66.8 mg/Kg	
TOTAL CADMIUM	SW-846 6010A	5.46 mg/Kg	
TOTAL CHROMIUM	SW-846 6010A	21.6 mg/Kg	
TOTAL LEAD	SW-846 6010A	229 mg/Kg	
TOTAL MERCURY	SW-846 7471A	0.500 mg/Kg	
TOTAL SELENIUM	SW-846 6010A	<4.70 mg/Kg	
TOTAL SILVER	SW-846 6010A	3.71 B mg/Kg	

B = Reported value is greater than the
Method Detection Limit (MDL) but less than
the Practical Quantitation Limit (PQL).

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ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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PCB
METHOD 8082
PAGE One

SAMPLE ID: FORMER S1, 027-01
LAB ID: 9912/5571-001
PARENT ORDER NUMBER: 172699

<u>CAS NUMBER</u>		QUANT FACTOR :	0.00
		PRACTICAL QUANTITATION LIMIT <u>µg/KG</u>	RESULTS <u>µg/KG</u>
12674-11-2	A-1016	44	U
1104-28-2	A-1221	44	U
11141-16-5	A-1232	44	U
53469-21-9	A-1242	44	U
12672-29-6	A-1248	44	U
11097-69-1	A-1254	44	U
11096-82-5	A-1260	44	30.7J

SURROGATE RECOVERY RESULTS

		% RECOVERY
2051-24-3	Decachlorobiphenyl (DCB)	123
877-09-8	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	80

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 11:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/10/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: BACKGROUND, 027-02

LAB ID: 9912/5571-002

PARENT ORDER NUMBER: 172700

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION</u>		<u>RESULTS</u> <u>µg/KG</u>
		<u>LIMIT</u> <u>µg/KG</u>		
12674-11-2	A-1016	41		U
1104-28-2	A-1221	41		U
11141-16-5	A-1232	41		U
53469-21-9	A-1242	41		U
12672-29-6	A-1248	41		U
11097-69-1	A-1254	41		U
11096-82-5	A-1260	41		63.3

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
2051-24-3	Decachlorobiphenyl (DCB)	200
877-09-8	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	76

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 11:25
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/10/01
ANALYST: J.K.

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INVOICE: 53993
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PO: O1LG-P0028

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SAMPLE ID: TOTES AREA, 027-04
LAB ID: 9912/5571-004
PARENT ORDER NUMBER: 172702

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION LIMIT <u>µg/KG</u>	RESULTS <u>µg/KG</u>
12674-11-2	A-1016	56	U
1104-28-2	A-1221	56	U
11141-16-5	A-1232	56	U
53469-21-9	A-1242	56	U
12672-29-6	A-1248	56	U
11097-69-1	A-1254	56	U
11096-82-5	A-1260	56	115

SURROGATE RECOVERY RESULTS

		% RECOVERY
2051-24-3	Decachlorobiphenyl (DCB)	161
877-09-8	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	76

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/10/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: SECONDARY CONTAINMENT, 027-05
LAB ID: 9912/5571-005
PARENT ORDER NUMBER: 172705

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION</u>		<u>RESULTS</u> <u>µg/KG</u>
		<u>LIMIT</u> <u>µg/KG</u>	<u>QUANT FACTOR :</u> 0.00	
12674-11-2	A-1016	38		U
1104-28-2	A-1221	38		U
11141-16-5	A-1232	38		U
53469-21-9	A-1242	38		U
12672-29-6	A-1248	38		U
11097-69-1	A-1254	38		148
11096-82-5	A-1260	38		97.4

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
2051-24-3	Decachlorobiphenyl (DCB)	143
877-09-8	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	74

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:10
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/10/01
ANALYST: J.K.

TETRA TECH EM, INC.
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ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
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SAMPLE ID: TURMER TANK STORAGE, 027-06

LAB ID: 9912/5571-006

PARENT ORDER NUMBER: 172706

QUANT FACTOR : 0.00

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION</u>	<u>RESULTS</u> <u>µg/KG</u>
		<u>LIMIT</u> <u>µg/KG</u>	
12674-11-2	A-1016	38	U
1104-28-2	A-1221	38	U
11141-16-5	A-1232	38	U
53469-21-9	A-1242	38	U
12672-29-6	A-1248	38	U
11097-69-1	A-1254	38	U
11096-82-5	A-1260	38	36.4J

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
2051-24-3	Decachlorobiphenyl (DCB)	107
877-09-8	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	75

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:31
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/10/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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ORGANOCHLORINE PESTICIDES ONLY
METHOD 8081
PAGE One

SAMPLE ID: FORMER S1, 027-01
LAB ID: 9912/5571-001
PARENT ORDER NUMBER: 172699

QUANT FACTOR : 4435.57

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
319-84-6	alpha-BHC	13.31	U
319-85-7	beta-BHC	26.61	U
319-86-8	delta-BHC	39.92	17.3J
58-89-9	gamma-BHC (Lindane)	17.74	U
76-44-8	Heptachlor	13.31	U
5103-74-2	gamma-Chlordane	16.41	U
5103-71-9	alpha-Chlordane	11.98	U
309-00-2	Aldrin	17.74	U
1024-57-3	Heptachlor epoxide	368.15	U
959-98-8	Endosulfan I	62.10	U
60-57-1	Dieldrin	8.87	22.2
72-55-9	4,4'-DDE	17.74	U
72-20-8	Endrin	26.61	U
33213-65-9	Endosulfan II	17.74	U
72-54-8	4,4'-DDD	48.79	U
1031-07-8	Endosulfan sulfate	292.75	U
50-29-3	4,4'-DDT	53.23	U
72-43-5	Methoxychlor	780.66	U
7421-93-4	Endrin aldehyde	102.02	U
53494-70-5	Endrin Ketone	44.36	U
57-74-9	Chlordane (technical)	62.10	U
8001-35-2	Toxaphene	1064.54	U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 11:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/10/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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METHOD 8081
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SAMPLE ID: BACKGROUND, 027-02

LAB ID: 9912/5571-002

PARENT ORDER NUMBER: 172700

QUANT FACTOR : 4140.79

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION	
		<u>LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
319-84-6	alpha-BHC	12.42	U
319-85-7	beta-BHC	24.84	U
319-86-8	delta-BHC	37.27	15.3J
58-89-9	gamma-BHC (Lindane)	16.56	U
76-44-8	Heptachlor	12.42	U
5103-74-2	gamma-Chlordane	15.32	U
5103-71-9	alpha-Chlordane	11.18	13.2
309-00-2	Aldrin	16.56	10.8J
1024-57-3	Heptachlor epoxide	343.69	U
959-98-8	Endosulfan I	57.97	U
60-57-1	Dieldrin	8.28	23.6
72-55-9	4,4'-DDE	16.56	U
72-20-8	Endrin	24.84	U
33213-65-9	Endosulfan II	16.56	U
72-54-8	4,4'-DDD	45.55	U
1031-07-8	Endosulfan sulfate	273.29	U
50-29-3	4,4'-DDT	49.69	U
72-43-5	Methoxychlor	728.78	U
7421-93-4	Endrin aldehyde	95.24	U
53494-70-5	Endrin Ketone	41.41	U
57-74-9	Chlordane (technical)	57.97	U
8001-35-2	Toxaphene	993.79	U

SURROGATE RECOVERY RESULTS

		% RECOVERY
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 11:25
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/10/01
ANALYST: J.K.

TETRA TECH EM, INC.
1116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

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(314) 432-0550

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: RESERVOIR, 027-03
LAB ID: 9912/5571-003
PARENT ORDER NUMBER: 172701

QUANT FACTOR : 6435.01

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
319-84-6	alpha-BHC	19.31	U
319-85-7	beta-BHC	38.61	U
319-86-8	delta-BHC	57.92	U
58-89-9	gamma-BHC (Lindane)	25.74	U
76-44-8	Heptachlor	19.31	U
5103-74-2	gamma-Chlordane	23.81	19.3J
5103-71-9	alpha-Chlordane	17.37	U
309-00-2	Aldrin	25.74	U
1024-57-3	Heptachlor epoxide	534.11	U
959-98-8	Endosulfan I	90.09	U
60-57-1	Dieldrin	12.87	U
72-55-9	4,4'-DDE	25.74	U
72-20-8	Endrin	38.61	U
33213-65-9	Endosulfan II	25.74	U
72-54-8	4,4'-DDD	70.79	U
1031-07-8	Endosulfan sulfate	424.71	U
50-29-3	4,4'-DDT	77.22	U
72-43-5	Methoxychlor	1132.56	U
7421-93-4	Endrin aldehyde	148.01	U
53494-70-5	Endrin Ketone	64.35	U
57-74-9	Chlordane (technical)	90.09	U
8001-35-2	Toxaphene	1544.40	U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
877-09-8	Decachlorobiphenyl (DCB)	116
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	93

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 11:45
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: TOTES AREA, 027-04

LAB ID: 9912/5571-004

PARENT ORDER NUMBER: 172702

QUANT FACTOR : 11259.36

CAS NUMBER		PRACTICAL QUANTITATION	
		LIMIT µg/KG	RESULTS µg/KG
319-84-6	alpha-BHC	33.78	51.8 J
319-85-7	beta-BHC	67.56	U
319-86-8	delta-BHC	101.33	U
58-89-9	gamma-BHC (Lindane)	45.04	U
76-44-8	Heptachlor	33.78	48.4 J
5103-74-2	gamma-Chlordane	41.66	243 L.J. 6-12-01
5103-71-9	alpha-Chlordane	30.40	56.3
309-00-2	Aldrin	45.04	82.2 J
1024-57-3	Heptachlor epoxide	934.53	U
959-98-8	Endosulfan I	157.63	U
60-57-1	Dieldrin	22.52	1400
72-55-9	4,4'-DDE	45.04	U
72-20-8	Endrin	67.56	U
33213-65-9	Endosulfan II	45.04	U
72-54-8	4,4'-DDD	123.85	U
1031-07-8	Endosulfan sulfate	743.12	U
50-29-3	4,4'-DDT	135.11	U
72-43-5	Methoxychlor	1981.65	U
7421-93-4	Endrin aldehyde	258.97	U
53494-70-5	Endrin Ketone	112.59	U
57-74-9	Chlordane (technical)	157.63	U
8001-35-2	Toxaphene	2702.25	U

SURROGATE RECOVERY RESULTS

		% RECOVERY
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

ENVIRONMETRICS, INC.

11401 Moog Drive
St. Louis, MO 63146
(314) 432-0550

ORGANOCHLORINE PESTICIDES ONLY
METHOD 8081
PAGE One

SAMPLE ID: SECONDARY CONTAINMENT, 027-05

LAB ID: 9912/5571-005

PARENT ORDER NUMBER: 172705

QUANT FACTOR :

19205.65

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION	
		<u>LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
319-84-6	alpha-BHC	57.62	92.2 J
319-85-7	beta-BHC	115.23	U
319-86-8	delta-BHC	172.85	U
58-89-9	gamma-BHC (Lindane)	76.82	U
76-44-8	Heptachlor	57.62	U
5103-74-2	gamma-Chlordane	71.06	U
5103-71-9	alpha-Chlordane	51.86	U
309-00-2	Aldrin	76.82	129 J
1024-57-3	Heptachlor epoxide	1594.07	U
959-98-8	Endosulfan I	268.88	U
60-57-1	Dieldrin	38.41	1390 J
72-55-9	4,4'-DDE	76.82	U
72-20-8	Endrin	115.23	U
33213-65-9	Endosulfan II	76.82	U
72-54-8	4,4'-DDD	211.26	U
1031-07-8	Endosulfan sulfate	1267.57	U
50-29-3	4,4'-DDT	230.47	U
72-43-5	Methoxychlor	3380.20	U
7421-93-4	Endrin aldehyde	441.73	U
53494-70-5	Endrin Ketone	192.06	U
57-74-9	Chlordane (technical)	268.88	U
8001-35-2	Toxaphene	4609.36	U

SURROGATE RECOVERY RESULTS

	<u>% RECOVERY</u>
877-09-8	0
2051-24-3	0

Decachlorobiphenyl (DCB)
2,4,5,6-Tetrachloro-meta-xylene
(TCMX)

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:10
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

ENVIRONMETRICS, INC.

11401 Moog Drive
St. Louis, MO 63146
(314) 432-0550

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: TURMER TANK STORAGE, 027-06

LAB ID: 9912/5571-006

PARENT ORDER NUMBER: 172706

QUANT FACTOR : 188707.73

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
319-84-6	alpha-BHC	566.12	U
319-85-7	beta-BHC	1132.25	U
319-86-8	delta-BHC	1698.37	U
58-89-9	gamma-BHC (Lindane)	754.83	U
76-44-8	Heptachlor	566.12	U
5103-74-2	gamma-Chlordane	698.22	U
5103-71-9	alpha-Chlordane	509.51	U
309-00-2	Aldrin	754.83	944 J
1024-57-3	Heptachlor epoxide	15662.74	U
959-98-8	Endosulfan I	2641.91	U
60-57-1	Dieldrin	377.42	3720 L.J. 6/12/01
72-55-9	4,4'-DDE	754.83	U
72-20-8	Endrin	1132.25	U
33213-65-9	Endosulfan II	754.83	U
72-54-8	4,4'-DDD	2075.79	U
1031-07-8	Endosulfan sulfate	12454.71	U
50-29-3	4,4'-DDT	2264.49	U
72-43-5	Methoxychlor	33212.56	U
7421-93-4	Endrin aldehyde	4340.28	U
53494-70-5	Endrin Ketone	1887.08	U
57-74-9	Chlordane (technical)	2641.91	U
8001-35-2	Toxaphene	45289.85	U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:31
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

TETRA TECH EM, INC.
1116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: DITCH SED, 027-07

LAB ID: 9912/5571-007

PARENT ORDER NUMBER: 172708

QUANT FACTOR :

375375.38

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION	
		<u>LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
319-84-6	alpha-BHC	1126.13	U
319-85-7	beta-BHC	2252.25	U
319-86-8	delta-BHC	3378.38	U
58-89-9	gamma-BHC (Lindane)	1501.50	U
76-44-8	Heptachlor	1126.13	15400
5103-74-2	gamma-Chlordane	1388.89	8480
5103-71-9	alpha-Chlordane	1013.51	1910
309-00-2	Aldrin	1501.50	2100 J
1024-57-3	Heptachlor epoxide	31156.16	1760J
959-98-8	Endosulfan I	5255.26	U
60-57-1	Dieldrin	750.75	5100
72-55-9	4,4'-DDE	1501.50	U
72-20-8	Endrin	2252.25	U
33213-65-9	Endosulfan II	1501.50	U
72-54-8	4,4'-DDD	4129.13	U
1031-07-8	Endosulfan sulfate	24774.77	U
50-29-3	4,4'-DDT	4504.50	U
72-43-5	Methoxychlor	66066.07	U
7421-93-4	Endrin aldehyde	8633.63	U
53494-70-5	Endrin Ketone	3753.75	U
57-74-9	Chlordane (technical)	5255.26	U
8001-35-2	Toxaphene	90090.09	U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 12:20
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993
PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: WATER SAMPLE, 027-08

LAB ID: 9912/5571-008

PARENT ORDER NUMBER: 172709

QUANT FACTOR : 10.00

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION	<u>RESULTS</u> <u>ug/L</u>
		LIMIT <u>ug/L</u>	
319-84-6	alpha-BHC	0.03	U
319-85-7	beta-BHC	0.06	U
319-86-8	delta-BHC	0.09	U
58-89-9	gamma-BHC (Lindane)	0.04	U
76-44-8	Heptachlor	0.03	U
5103-74-2	gamma-Chlordane	0.04	U
5103-71-9	alpha-Chlordane	0.43	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.83	U
959-98-8	Endosulfan I	0.14	U
60-57-1	Dieldrin	0.02	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.06	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.66	U
50-29-3	4,4'-DDT	0.12	U
72-43-5	Methoxychlor	1.76	U
7421-93-4	Endrin aldehyde	0.23	U
53494-70-5	Endrin Ketone	0.10	U
57-74-9	Chlordane (technical)	0.14	U
8001-35-2	Toxaphene	2.40	U

SURROGATE RECOVERY RESULTS

		% RECOVERY
877-09-8	Decachlorobiphenyl (DCB)	27
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	30

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 14:40
DATE RECEIVED: 04/26/01
DATE ANALYZED: 04/30/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

ATTN: ART CURRIER

INVOICE: 53993

PROJECT NO: G9009E 0104027, SWIFT CHEM AG
PO: O1LG-P0028

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SAMPLE ID: CREEKS SEDS, 027-09

LAB ID: 9912/5571-009

PARENT ORDER NUMBER: 172711

QUANT FACTOR : 9809.69

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION LIMIT</u> <u>µg/KG</u>	<u>RESULTS</u> <u>µg/KG</u>
319-84-6	alpha-BHC	29.43	38.2 J
319-85-7	beta-BHC	58.86	U
319-86-8	delta-BHC	88.29	U
58-89-9	gamma-BHC (Lindane)	39.24	U
76-44-8	Heptachlor	29.43	U
5103-74-2	gamma-Chlordane	36.30	U
5103-71-9	alpha-Chlordane	26.49	U
309-00-2	Aldrin	39.24	U
1024-57-3	Heptachlor epoxide	814.20	U
959-98-8	Endosulfan I	137.34	U
60-57-1	Dieldrin	19.62	U
72-55-9	4,4'-DDE	39.24	U
72-20-8	Endrin	58.86	U
33213-65-9	Endosulfan II	39.24	U
72-54-8	4,4'-DDD	107.91	U
1031-07-8	Endosulfan sulfate	647.44	U
50-29-3	4,4'-DDT	117.72	U
72-43-5	Methoxychlor	1726.51	U
7421-93-4	Endrin aldehyde	225.62	U
53494-70-5	Endrin Ketone	98.10	U
57-74-9	Chlordane (technical)	137.34	U
8001-35-2	Toxaphene	2354.33	U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 15:00
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.

TETRA TECH EM, INC.
11116 SOUTHTOWNE SQUARE, SUITE 303
ST. LOUIS, MO 63123

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PROJECT NO: G9009E 0104027, SWIFT CHEM AG
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SAMPLE ID: CREEKS SEDS, 027-10

LAB ID: 9912/5571-010

PARENT ORDER NUMBER: 172712

QUANT FACTOR : 10808.47

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION		<u>RESULTS</u> <u>µg/KG</u>
		<u>LIMIT</u> <u>µg/KG</u>		
319-84-6	alpha-BHC	32.43		U
319-85-7	beta-BHC	64.85		U
319-86-8	delta-BHC	97.28		U
58-89-9	gamma-BHC (Lindane)	43.23		U
76-44-8	Heptachlor	32.43		U
5103-74-2	gamma-Chlordane	39.99		44.3
5103-71-9	alpha-Chlordane	29.18		U
309-00-2	Aldrin	43.23		56.2 J
1024-57-3	Heptachlor epoxide	897.10		U
959-98-8	Endosulfan I	151.32		U
60-57-1	Dieldrin	21.62		176 b-12-01
72-55-9	4,4'-DDE	43.23		U
72-20-8	Endrin	64.85		U
33213-65-9	Endosulfan II	43.23		U
72-54-8	4,4'-DDD	118.89		U
1031-07-8	Endosulfan sulfate	713.36		U
50-29-3	4,4'-DDT	129.70		U
72-43-5	Methoxychlor	1902.29		U
7421-93-4	Endrin aldehyde	248.59		U
53494-70-5	Endrin Ketone	108.08		U
57-74-9	Chlordane (technical)	151.32		U
8001-35-2	Toxaphene	2594.03		U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

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J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 15:05
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DATE ANALYZED: 05/08/01
ANALYST: J.K.

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ST. LOUIS, MO 63123

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SAMPLE ID: CREEKS SEDS, 027-11

LAB ID: 9912/5571-011

PARENT ORDER NUMBER: 172713

QUANT FACTOR : 5023.86

<u>CAS NUMBER</u>		<u>PRACTICAL QUANTITATION</u>		<u>RESULTS</u> <u>µg/KG</u>
		<u>LIMIT</u> <u>µg/KG</u>		
319-84-6	alpha-BHC	15.07		U
319-85-7	beta-BHC	30.14		U
319-86-8	delta-BHC	45.21		27.1J
58-89-9	gamma-BHC (Lindane)	20.10		U
76-44-8	Heptachlor	15.07		U
5103-74-2	gamma-Chlordane	18.59		14.6J
5103-71-9	alpha-Chlordane	13.56		12.6J
309-00-2	Aldrin	20.10		24.6 J
1024-57-3	Heptachlor epoxide	416.98		U
959-98-8	Endosulfan I	70.33		U
60-57-1	Dieldrin	10.05		66.8 6-12-01
72-55-9	4,4'-DDE	20.10		25.1
72-20-8	Endrin	30.14		U
33213-65-9	Endosulfan II	20.10		U
72-54-8	4,4'-DDD	55.26		U
1031-07-8	Endosulfan sulfate	331.57		43.2J
50-29-3	4,4'-DDT	60.29		60.8
72-43-5	Methoxychlor	884.20		U
7421-93-4	Endrin aldehyde	115.55		47.7J
53494-70-5	Endrin Ketone	50.24		U
57-74-9	Chlordane (technical)	70.33		U
8001-35-2	Toxaphene	1205.73		U

SURROGATE RECOVERY RESULTS

		<u>% RECOVERY</u>
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 15:10
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ANALYST: J.K.

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SAMPLE ID: CREEKS SEDS, 027-12

LAB ID: 9912/5571-012

PARENT ORDER NUMBER: 172714

QUANT FACTOR : 5701.90

<u>CAS NUMBER</u>		PRACTICAL QUANTITATION	
		LIMIT <u>µg/KG</u>	RESULTS <u>µg/KG</u>
319-84-6	alpha-BHC	17.11	U
319-85-7	beta-BHC	34.21	U
319-86-8	delta-BHC	51.32	U
58-89-9	gamma-BHC (Lindane)	22.81	U
76-44-8	Heptachlor	17.11	U
5103-74-2	gamma-Chlordane	21.10	23.4
5103-71-9	alpha-Chlordane	15.40	U
309-00-2	Aldrin	22.81	27.9 J 6-12-01
1024-57-3	Heptachlor epoxide	473.26	U
959-98-8	Endosulfan I	79.83	U
60-57-1	Dieldrin	11.40	75.8
72-55-9	4,4'-DDE	22.81	U
72-20-8	Endrin	34.21	U
33213-65-9	Endosulfan II	22.81	U
72-54-8	4,4'-DDD	62.72	U
1031-07-3	Endosulfan sulfate	376.33	U
50-29-3	4,4'-DDT	68.42	U
72-43-5	Methoxychlor	1003.54	U
7421-93-4	Endrin aldehyde	131.14	U
53494-70-5	Endrin Ketone	57.02	U
57-74-9	Chlordane (technical)	79.83	U
8001-35-2	Toxaphene	1368.46	U

SURROGATE RECOVERY RESULTS

		% RECOVERY
877-09-8	Decachlorobiphenyl (DCB)	0
2051-24-3	2,4,5,6-Tetrachloro-meta-xylene (TCMX)	0

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED: 04/25/01 15:15
DATE RECEIVED: 04/26/01
DATE ANALYZED: 05/08/01
ANALYST: J.K.